SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Government Inspection of Coal Mines.

THE INSPECTORS' REPORTS.

The reports of the several Inspectors for 1866, as well for coal mines as for the mines of ironstone of the coal measures, have just been printed, and present a less satisfactory account, there having been an increase in the number of separate accidents to the extent of 20, and an increase of 500 in the number of deaths resulting. Considering the number of colliers employed, the proportion to each separate accident has not materially varied, but looking at the number of persons employed for each life lost there has, taking the average, been a fearful diminution, and, unfortunately, it is not alone in the districts wherein the two great accidents of the year—the Oaks and the Talke-o'-th'-Hill—occurred that this diminution is apparent. It is, indeed, only in the North and East Lancashire, the Derbyshire district, and South Wales that an improvement is shown, and strangely enough those are precisely the districts which, comparing 1865 with the preceding year, showed retrogression. In Scotland, again, which this year shows that a considerably larger number of colliers were employed for each life lost, a great failing off was shown in 1865, as compared with the preceding year. The numbers for all Scotland for 1864, 1865, and 1866 respectively were 568, 391, and 536, so that it would seem that the variations result more from some particular accident in the district effected than from any general improvement or falling off in the management of the collieries. Indeed it would appear, taking the average for a number of years, the result does not materially vary—certainly not more than might reasonably be expected in connection with such an extensive branch of industry. In 1863 each separate accident resulted in 1·20 deaths; in 1864 it fell to 1·10; and in 1865 it again rose to 1·20; whilst the reports now under consideration, which refer to 1866, show 1·73, but this is accounted for by the fearful calamities at the Oaks and the Talke-o'-th'Hill Collieries, which occurred in the middle of December, and altered all the general averages for the year. Excluding those two accidents, by which no less than 453 persons lost their lives, the deaths for the year for the whole kingdom would remain 1031, which distributed over 855 accidents would give 1·20 per accident, almost precisely—this fact is merely mentioned to show how dangerous it is to draw hasty conclusions upon bare figures, and how great a necessity there is for considering *all* the bearings of the question before adopting the opinion that more stringent legislative enactments are necessary, simply because more colliers were killed in 1866 than in the preceding year.

We subjoin our usual tabulated summary, which will permit of the fatality of the several classes of accidents being compared:—

COAL MINES—1865.

	Separate Accidents.					Deaths Resulting.				
	Explosions of Fire-damp.	Falls of Roof and Coal and Sides of Working.	In shafts.	Miscellaneous, underground and at surface	Total.	Explosions of Fire-damp.	Falls of Roof and Coal and Sides of Working.	In shafts.	Miscellaneous, underground and at surface.	Total.
North Durham, Northumberland, Cumberland district	7	26	13	44	90	14	26	13	44	97
Southern division of Durham	2	21	10	43	76	4	22	10	46	82
North and East Lancashire	6	30	7	18	61	10	31	7	18	66
West Lancashire and Nth. Wales	8	37	19	35	99	11	38	31	37	117
Yorkshire district	8	22	11	5	46	15	22	13	5	55
Derbyshire, Nottinghamshire, Leicestershire, and Warwickshire	2	36	13	23	74	9	36	13	24	82
North Staffordshire, Cheshire, and Shropshire	6	22	8	9	45	12	22	9	9	52
South Staffordshire & Worcester	7	41	21	10	79	8	48	22	13	91
Sou.-West. Div. (parts of Monmouth, Glo'ster, Glamorgan, Brecon. and Devon)	1	34	9	12	56	26	34	10	12	82
South Wales district	6	55	17	40	118	45	57	17	40	159
Eastern district of Scotland	4	17	11	11	43	5	17	12	13	47
Western district of Scotland	7	27	5	11	50	9	28	6	11	54
Total	64	368	144	261	837	168	381	163	272	984

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COAL MINES—1866.

North Durham, Northumberland, Cumberland districts	3	30	9	49	91	4	33	9	53	99
Southern division of Durham	2	23	11	48	84	28	23	12	52	115
North and East Lancashire	6	25	9	18	58	13	25	9	22	69
West Lancashire & North Wales	11	34	16	44	105	53	37	16	44	150
Yorkshire district	4	29	17	11	61	364	29	20	12	425
Derbyshire, Nottinghamshire, Leicestershire, and Warwickshire	6	25	5	19	55	7	26	5	20	58
North Staffordshire, Cheshire, and Shropshire	9	11	10	17	47	142	11	10	18	181
South Staffordshire & Worcester.	11	46	24	15	96	14	52	25	18	109
Sou.-West Div. (parts of Monmouth, Gloucester, Glamorgan, Brecon, and Devon	5	38	18	14	75	6	38	20	17	81
South Wales district	8	48	15	42	113	13	49	15	43	120
Eastern district of Scotland	4	10	6	9	29	5	11	7	9	32
Western district of Scotland	2	26	13	2	43	2	27	14	2	45
Total	71	345	153	288	857	651	361	162	310	1484

IRONSTONE MINES*—1865.

West Lancashire & North Wales	—	—	—	—	—	—	—	—	—	—
Yorkshire district	—	1	—	—	1	—	1	—	—	1
Derby., Notts., Leic., & Warwick	—	2	3	—	5	—	2	4	—	6
North Staff., Cheshire, & Shrop.	1	10	3	2	16	1	10	4	2	17
South Staffordshire & Worcester	—	2	3	—	5	—	2	3	—	5
South-Western Division	—	9	1	3	13	—	9	1	4	14
South Wales district	—	4	1	2	7	—	4	1	2	7
Eastern district of Scotland	—	3	2	—	5	—	3	2	—	5
Western district of Scotland	2	2	3	2	9	2	4	5	3	14
Total	3	33	16	9	61	3	35	20	11	69

IRONSTONE MINES*—1866.

West Lancashire & North Wales	—	1	—	—	1	—	—	—	—	—
Yorkshire district	—	3	1	2	6	—	3	1	2	6
Derby., Notts., Leic., & Warwick	—	1	5	2	8	—	1	5	2	8
North Staff., Cheshire, & Shrop.	1	12	5	3	21	1	13	5	3	22
South Staffordshire & Worcester	1	6	2	2	11	2	6	2	2	12
South-Western Division	—	12	1	1	14	—	12	1	1	14
South Wales district	—	5	2	3	10	—	4	2	3	9
Eastern district of Scotland	—	1	2	2	5	—	1	2	3	6
Western district of Scotland	1	1	—	2	4	1	1	—	2	4
Total	3	42	18	17	80	4	41	18	18	81

* No ironstone mine accidents are reported in Messrs. Verner's, Atkinson's, and Dickinson's districts.

With regard to the number of male coal miners employed in and about the coal mines of Great Britain, the number of fatal accidents and lives lost, the quantity of coal raised, and the proportion of accidents and lives lost to the number of persons employed, and to the tons of coal raised in the year, the figures of 1866 are, upon the whole, less favourable than those for the preceding year, yet several districts show a marked improvement. The subjoined tables will enable a comparison of the several particulars to be readily made:—

1865.

Names of districts.	As computed by each Inspector for his own district.		Per separate fatal accident.	No. employed per life lost.	Tons of coal raised per separate fatal accident.	Tons of coal raised per life lost.	Number of collieries.
	Males employed.	Tons coal raised.					
Northumberland, Cumberland, & N. Durham	25,035	10,409,900	278	258	115,665	107,318	165
South Durham	33,943	14,181,433	447	414	186,598	172,944	161
North & East Lancashire	23,525	6,312,000	385	356	103,475	95,636	258
West Lancashire and North Wales	27,600	8,000,000	278	238	80,808	68,965	189
Yorkshire	35,000	9,300,000	760	636	202,174	169,091	422
Derby, Nottingham, Leicester, & Warwick	27,089	7,575,000	366	330	102,371	92,383	205
Nth. Stafford, Cheshire, and Shropshire	21,000	5,600,000	466	403	124,444	107,692	226
S. Stafford & Worcester	27,000	10,201,500	341	296	129,132	112,104	542
Monmouth, Gloucester, Somerset, and Devon	26,658	6,000,000	476	325	107,143	73,170	225
South Wales	29,076	8,531,336	246	182	72,300	53,656	338
Totals—England & Wales	275,926	86,111,169					
East Scotland	21,150	6,400,000	492	450	148,837	136,170	270
West Scotland	18,375	6,400,000	367	340	128,000	118,518	223
Totals, Scotland	39,525	12,800,000					
Totals & averages, England, Wales, Scotland	315,451	98,911,169	377	321	118,173	100,519	3215

1866.

Northumberland, Cumland, & Nth. Durham	25,647	10,763,800	281	259	118,283	108,725	160
South Durham	35,720	14,930,000	425	310	177,738	129,826	155
North & East Lancashire	25,440	6,774,000	438	368	116,793	98,173	265
West Lancashire and North Wales	30,000	8,000,000	285	200	79,623	55,666	180
Yorkshire	35,500	9,450,000	582	83	154,918	22,235	434
Derby, Nottingham, Leicester, & Warwick.	27,100	7,600,000	493	467	138,182	131,034	196
Nth. Stafford, Cheshire, and Shropshire	20,210	5,500,000	480	112	117,021	30,387	220
S. Stafford & Worcester	27,000	10,300,000	281	248	107,292	94,495	544
Monmouth, Gloucester, Somerset, & Devon	26,000	6,000,000	346	321	80,000	74,074	228
South Wales	29,200	9,376,443	258	243	82,977	78,137	338
Totals—England & Wales	279,417	88,694,243					
East Scotland	21,200	6,100,000	731	662	210,348	190,625	254
West Scotland	20,046	5,934,638	466	445	138,010	131,880	218
Totals, Scotland	41,246	12,034,638					
Totals & averages, England, Wales, Scotland	320,663	100,728,881	374	216	117,537	67,877	3192

The above tables really embrace all the general statistics contained in the reports, and a large amount of information as to the precise circumstances under which the several accidents happened. The volume contains Mr. Dickinson's report upon the Oaks Explosion, and is amply illustrated with plans of the workings, &c., of the several collieries in which the accidents occurred. We shall, as usual, publish abstracts of the reports in subsequent Journals.

PATENT VENTILATED FUEL.

Reference was some time since made in the *Mining Journal* to some improvements in the manufacture of artificial fuel, introduced by Messrs. JAMES and JAMES BIRD, of Laurence Pountney-hill, and which consisted in so ventilating the blocks as to cause the combustion of the fuel to be more perfect. The coal or material (for the process is applicable to coal, coke, culm, or peat), is reduced by means of screening or under-edge runners, stampers, rolls, or by other methods of grinding to an average size of fine sawdust, and 4 lbs. of powdered resin or dried pitch (more or less according as the quality of the coal or material used is more or less bituminous), is intimately mixed in such process with each ton of the coal dust or coke and coal dust or other material. The powdered material is passed from thence either by means of endless chain and buckets, by hand-barrows, or any other convenient arrangement, to a machine in the nature of a pug-mill, which will mix and incorporate the coal with the agglutinating materials. The machine in which the coal, coke, or culm, and other materials are mixed will consist of a cylindrical or other shaped vessel, either revolving itself, or having a revolving shaft carrying a number of arms, teeth, or other projections, so as to thoroughly beat up and incorporate the whole of the materials placed in it; the cylinder or other vessel should also have arms or projections inside.

The compound which they employ for consolidating the small coal is a combination of paste and glue, dissolved in water. They take 8 lbs. of meal, which is mixed with 5 or 6 gallons of water, and boiled for half an hour, a small lump of alum (about 2 ozs. to the whole quantity) being by preference dissolved in the water, as is usual in the manufacture of ordinary shoemakers' paste. To this paste while yet hot may be added one pint of resin, oil, or, by preference, 1 lb. of common glue dissolved in a couple of gallons of hot water, after having been previously soaked in cold water. These ingredients form together about 8 or 10 gallons of agglutinising material, which is the average quantity as nearly as may be required for each ton of powdered coal, or material or combinations of coke, coal, or culm (if used together), more or less water being added, according to the quality of the material, in order to produce a properly consistent mass for the formation into blocks of fuel.

But the most important feature of the invention is the ventilation of the blocks, and it is this that constitutes the distinctive character of the invention. Into each mould one or more cores are introduced, so as to form a slot, or slots, or one or more perforations through the centre of each block of fuel, causing thereby a free circulation of air through the middle of the fuel, as well as over the sides and surface, and which surface may be corrugated or furrowed. The fuel thus moulded, either by lever or screw presses, or other mechanical means, is subjected to sufficient pressure to consolidate the blocks, and cause them to hold together in their then shape and form until the blocks dry and harden, when they are fit for use. The drying process may be effected in the open air if the weather is fine and dry, or in chambers exposed to draft, which latter plan is preferred, as the blocks require merely a summer heat temperature, and do better if gradually dried than by rapid process of superheating. Where quick delivery is necessary they can be dried in the ordinary way in closed chambers, kilns, or ovens.

If the blocks after moulding do not adhere sufficiently to be safely and conveniently handled, the quantity of paste composition should be increased; and if after being dried the blocks are found, from the nature of the coal or compound material employed, to be too fragile for the purpose for which they are required, the proportion of resin may be increased to correct this. It is claimed that, by moulding the fuel in this manner, not only is its drying from the centre greatly facilitated, but it is also caused to burn more freely, in consequence of the air being able to penetrate the mass of fuel when under combustion, and combustion is so facilitated and improved that but little smoke is made or ash left behind. The ingredients employed exercise no injurious influence on the fire-bars or grates. The ventilated fuel may be further waterproofed for exportation, or for damp climates, by a thin coating of coal tar, resin, oil, or lime wash, in which 1 lb. of tallow has been mixed to each 3 gallons of wash.

Royal School of Mines, Jermyn-Street.

MR. WARINGTON SMYTH'S LECTURES.

On Monday, Mr. Warington Smyth opened his winter season course of instruction, imparted orally, and by maps, models, and diagrams, to the students at the Jermyn-street School of Mines. He said that, in the rather long course of lectures he was commencing, his object would be to set before his audience the principal points of interest connected with the art of mining. That art was the assemblage of processes by which the useful minerals were raised from their natural localities; and in that art were included, and to it must be appended, other processes, by which the minerals obtained were rendered marketable, and made fit for the purposes of the smelter afterwards. The art of mining, therefore, treated—first, of the search for the minerals in their natural localities; and then with the various arrangements which were necessary to provide convenient entrance and exit to and from the mine, and for proper ventilation, so that the miners could work in security and comfort. At the same time, it included a number of purely mechanical arrangements, by which water, ores, and stone were to be raised to the surface. The art of mining, therefore, consisted of the application of several different branches of science, and those branches were principally MECHANICS, GEOLOGY, MINERALOGY, and PHYSICS. Amongst these the first they would take under consideration would be MINERALOGY, as that which taught the nature and the means of distinguishing the various substances which it was the object of the miner to obtain. GEOLOGY pointed to the places where search must be made and works established, in order to obtain the useful minerals. PHYSICS would assist in dealing with the difficulties that occurred during the progress of mining works, as, for instance, such as that of water rushing into the excavations made below the surface, or in establishing that ventilation which was necessary to get rid of vitiated air, and to introduce a continuous stream of pure atmosphere from the surface. And MECHANICS was needed throughout the whole of the series of processes, in dealing with the physical requirements necessary for raising the mineral, the establishment of pumps and such like, and the mechanical preparation and dressing of the various mineral substances. It would appear at first sight that a great difficulty existed in the fact that this art was dependent on so many different branches of science—and that it would be almost impossible to find a sufficient number of persons conversant with them to constitute good managers of mines. But besides a knowledge of these sciences, it was observed by those who looked into the subject that much practical experience was needful to enable the miner to overcome all the difficulties; which experience was only attainable by a lengthened acquaintance with the actual workings underground. No doubt there was a difficulty in finding men able to deal with all these various kinds of knowledge, but still it must be remembered that there was a very large class of practical miners who, by the rule of thumb as it were, had obtained a sufficient knowledge of those particular portions of science which enabled them to carry on their business with success. Different degrees of fitness for their position was, no doubt, to be found in managers. Very intelligent men might be found, who, by making great use of their time and opportunities for observations underground, and never observing anything without recording it in their memories, in connection with other phenomena, were enabled to surmount obstacles of the most extraordinary character in mines of great depth and extent, and worked under special kinds of difficulty. The object of lectures on mining should not be misunderstood. It was impossible to teach men by lectures so that they could go into a mine and undertake the management of it at once; just as it would be impossible to teach men to be sailors or handicraftsmen by such means. But, on the other hand, by attention on their part to the facts and theories brought before them by the lecturer with vividness and conciseness, a vast amount of knowledge might be acquired, which would otherwise occupy a great length of time, and thus smooth the way for those who were hereafter to undertake such works. Besides, it was only by a considerable number of actual visits underground to places variously situated, both in this country and on the Continent, and in other parts of the world, that they could hope to gain that acquaintance with every phase of circumstance which would enable them to combat difficulties when the necessity arose in their own after experience. It must not be concealed, however, that (and especially in the department of the search for the useful minerals) there were difficulties which interfered greatly with that certainty of success which might be looked for in other branches of applied science. The nature of a proper education for mining engineers or managers was also a difficult question. And partly because those most interested in mines lived frequently far away from the great centres of theoretical knowledge, in remote districts, where it is difficult to get information; and for such persons to travel great distances, to London or other large towns, and to remain while obtaining the necessary instruction, was too costly a process to be gone through without difficulty, except by students from the wealthier classes. There was also differences of opinion as to the age at which

students ought to begin both study and practice in the mine. Some thought it best that a foundation should be laid by the study of sciences and such information as may be obtained from books and lectures, while others are of opinion that preliminary experience obtained by actual working in the mine before book work was best. In his (Mr. Smyth's) opinion, the latter course was attended with the most advantages. That was to say, that a young man who had had the opportunity and advantage of seeing the practical processes of mining in actual operation would appreciate the advantages of theories and details, the value of which he would not be likely to perceive without such previous knowledge. A couple of years, then, spent in attending a course of lectures, reading the most approved works on the subject, and in visiting other localities, would do more good than four times that period would do if unprepared with practical preliminary information. Another point must not be lost sight of—that in every district the nature of the mines frequently differ so greatly that a different kind of knowledge is requisite, and theories and practice differ very much indeed. The task of the miner, it will at once be seen, was one of no ordinary character: if they added to all these conditions the great depth to which, now-a-days, the earth's crust had to be penetrated in so large a number of instances, and the very doubtful and mysterious character of many of the repositaries of the minerals to be worked. To illustrate this last remark the lecturer exhibited a large surface plan of the Carn Brea Mine, in Cornwall, which showed in how complicated a manner the veins of valuable mineral intersected each other, and how capriciously they were distributed—sometimes suddenly ceasing, or becoming too poor to work, and at others reappearing with great richness, when they might be least expected. He also showed a section of the shaft of the Tresavean Copper Mine, the depth of which was 330 fathoms, or about 2000 feet, sunk in the solid granite, remarking that at these great depths enormous strength of ropes and chains, and extremely powerful machinery, were requisite to bring the ore to the surface; and that it was requisite, from the great length of the pump-rods, to make special arrangements for bringing up the water from the bottom of the mine. He also mentioned an analogous case in the Hartz Mountains—that of the Andreasberg Mine—the shaft of which was 417 fathoms English from the surface. He regretted to hear, however, in this latter case, the mine had lately come to a standstill, as it had been found impossible to continue working it to advantage at that great depth. In the matter of depth alone there was, therefore, much difficulty; and it must be remembered that the depth of mines will always be inclined to increase, and eventually many veins of ore which at smaller depths might be worked to profit, would have to be given up altogether, while, of course, if the veins were sufficiently rich, they would be worked without limitation of depth. It was quite certain that we should have to go to much greater depths than we had hitherto done in pursuit of coal. The beds have been gradually followed depeer and deeper, and in the course of the next half century much deeper shafts would have to be sunk, and greater difficulties overcome, to obtain that fuel which is now a necessary of life, and without which civilisation could no longer go on. As he had already indicated, the lodes or veins of metallic minerals were more difficult to discover than the strata or beds of coal and stone and other valuable material; but, before touching on the indications to be sought for of success of the one, or the methods of dealing with the other, he must touch on a few preliminary points. Of these the conditions on which the right to work was conceded was foremost. Generally speaking, in all countries there was a royalty in some shape or other to be paid to the owner of the minerals. In the early division of the land by the first enclosers or conquerors of a country, it appeared to have been the usual way for the State, by its head, whether a council, a king, or an emperor, to give away the surface on condition of certain services being rendered, chiefly military, while the minerals beneath were retained for the use of the public at large. It was, no doubt, thought undesirable that the use of the minerals should be hampered by the divisions into fields and properties on the surface, and in some countries this arrangement still remained, so that the right to minerals is vested in the people, or Government. Thus, in Germany, Russia, Italy, and Turkey, if anyone discovered minerals he applied to the Government, and obtained a license to work, paying the occupier for damage to the surface for such parts as may be taken to open the mines, and for water-courses and roads and the like, and a royalty to the Government. In Great Britain the case was now different. Although originally a royalty was payable to the Crown on grants of minerals below the surface of private lands the right was early disputed by the large landowners, and that right vests in the Crown no longer. In this country, therefore, the owner of the surface is the owner of the minerals below the surface also. The only exception was in the case of silver and gold, which are still held to be royal metals. This had often led to great inconvenience, as in some of the Welsh mines of copper, lead, or galena there had to be special arrangements with respect to gold and silver ores; and there were cases in which the royal ores are so mixed with the others as to make it impossible to work the one without the other. This led to curious and intricate disputes, until at length it was established, in the reign of William and Mary, in the case of galena, &c., that where the royal ores were present in certain proportions the Crown should have a right of pre-emption, which in a few cases had been acted on. The general rule, making the minerals the property of the landowner, had led to great confusion. For instance, the surface is frequently sold by the proprietor, who reserves the minerals for his heir. In other cases, and the most common, the minerals are sold, and the surface retained. Sometimes, when the minerals are sold or reserved, sufficient power is not taken to enter the surface of the land. These circumstances, and the minute subdivisions of property, are extremely prejudicial to good and profitable mining. Again, there were sometimes three or four sets of lords, as the persons are termed who owned the minerals. Thus, one set claims the copper, another the lead, and another the tin; and in this way arrangements may have to be made with a dozen different sets of people before the miner could go to work. On the contrary, in almost any country abroad the Government held the minerals in its hands, and all that had to be done was to go to the proper officer, describe the spot, and, having complied with certain conditions, the miner could go and take the piece of ground, no one could interfere with him, and he would know exactly what he would have to pay, This system had a most important effect on the character of mining operations themselves. If they visited a good mine in Germany, and a good mine in England, they would find that the principal mechanical appliances and arrangements for raising the ore to surface were nearly similar. There was, however, this great difference. In continental countries, if a company or an individual wishes to take a mine in hand, it is obtained for as great a length of time as he may choose to continue working it. As long as he continues the work it is his, but if he ceases to work for a given period another may step in and take it. In England, on the contrary, it is the practice to grant leases for a given period. The adventurer obtains a tack-note, which gives him twelve months to search. He then takes a lease, generally for 21 years; but in some cases, where the material lies at a great depth, and a great deal of heavy machinery is necessary, the lease is for a longer period. Whether for a long or short term, the holder of the lease has but one object—that of recouping himself during the period of his lease for his outlay, and as much besides as possible for profit. The effect is, no doubt, to stimulate the enterprise and exertions of the leaseholder; but it also induces him to get as much ore as possible, without regard to the interests of those who come after him, or the permanence of the mine. 'Adventurers under such circumstances say—"After me the deluge," and act accordingly. Abroad the system pursued is just the reverse. There they work so as to make a mine last for many years. Thus, every year a certain amount of dead ground was opened, and the result was that a given area was thoroughly worked out. The lecturer showed, by a longitudinal section of the Teague lode, Carn Brea, that had not this system been pursued large masses of the richest ore would have been lost, as the faults were so considerable as to divide the mineral deposits from each other by large spaces of barren ground, which yielded nothing. There were a few well-managed mines in Cornwall, where people had looked a-head, and carried out their operations so as to secure a long duration of the mine. The modern system, however, was not favourable to the best mining, and in a few years the limited liability companies would change the face of the country. Formerly a company consisted of but few persons, who combined to work a mine, or take an old one up. The number of shares was limited, probably from 100 to 300. Of late years companies, especially the limited liability ones, have a large number of shares, in which a great traffic takes place, so that in fact the mines are often worked not as the means of employing a number of persons, and developing the mineral riches of the mine, but for the purpose of putting shares upon the market, and to furnish the means for speculation. There were exceptions, no doubt, but he feared these limited liability undertakings could not be spoken of with much respect. The old Cost-book System, which was in full swing in Cornwall, was infinitely better. Under that system a person subscribed only so much as would set the men to work. There was no fixed capital, but supposing it was estimated that 5000*l.* would be required, that sum was at once called up, and when it was spent another call, if needed, would be made, and so on, until the adventure was either abandoned as worthless, or yielded a profit. If properly carried out the adventurers met monthly, and it was their duty then to examine the books, and see that all bills were paid up to that time; and any man was at liberty if he pleased to pay up the full amount of the last call, and if he were dissatisfied withdraw from all further risk or liability. Having described several of the old customs as to the ownership of the minerals which affected the miner, the lecturer said that the spirit and circumstances of the times had led to great reductions in the dues and imports payable to the owners, and the rapid progress made latterly in some continental districts seemed to keep pace with these relaxations. Thus in Belgium up to 1851 1-10th of the produce of the mine was paid to the Government, but in that year it was reduced to 1-20th; and it had since been further reduced by degrees, until last year it was only 2 per cent. of the total produce, a circumstance much in favour of the profitable working of metalliferous mines.

After some further remarks, Mr. Smyth closed his most interesting lecture, amidst the applause of the students.

Motive Power for Mines.—An invention has been provisionally specified by Mr. L. Horsfield of Leeds, which consists of an improved arrangement for compressing air and conveying it to any part of the mine or other place necessary for giving off motive power. Instead of laying down pipes to a distance from the shaft or entrance to the mine, he makes strong air-tight receivers, mounted on wheels placed on a carriage, and compresses the air into the same; by these means he is enable to convey to any distance compressed air, and give off power for working an engine for a length of time according to the size of the receiver, and the pressure of the air contained. To charge the air-vessel and to obtain the requisite pressure of air he proposes to employ air-pumps driven by an ordinary steam-engine or other motive power, and he places the air vessels on suitable frames, and so arranged that he can charge or force the air into one recipient or air-vessel, and when so charged to a given pressure draw the air from the first air vessel to charge a second, and so on to as many as required until he obtains the desired pressure of air, giving the necessary power to work the machine it has to put in motion.

Unwatering Mines and Collieries.—It has heretofore been usual when a pit is about to be drained to erect the engine and boiler upon the surface at the mouth of the pit, action being communicated to the pump below by means of a connecting rod, which goes from the beam down to the pump it is proposed to work. In this manner a great deal of the motive power is consumed by the said connecting rod, which is necessarily long and of great weight, besides which, being so cumbersome, a considerable expense is necessarily caused in keeping the apparatus in proper working order. According to the invention of Mr. Wm. Matthews, of Tipton, the engine and boiler, and all the apparatus which supplies the motive power, is placed below the surface, by preference at the bottom of the shaft. The advantage of this obviously will be that for the same amount of force now employed three or four times the quantity of water may be raised by reason of the whole motive power being brought to bear directly upon the object it is sought to attain, instead of its being partially absorbed by the connecting rods and other like cumbersome apparatus which form a necessary part of the present system of draining. Attached to and communicating with the pump is the outlet pipe, by which the water is carried to the surface, and which may be arranged as usual, though he proposes that it shall be of lighter construction, and so made at a less cost than the pipes now used for this purpose.

Meetings of Mining Companies.

NEW WHEAL LOVELL MINING COMPANY.

A quarterly meeting of shareholders was held at the mine, on Nov. 7, when there was a large attendance of shareholders, owing, no doubt, to the fact having become known that there was a considerable improvement in the prospects of the venture. New Lovell sett is situated in a district long known for its rich deposits of tin; Old Lovell, the adjoining sett to the west, having realised profits to the extent of 180,000*l.*; and East Lovell, on the opposite side, being at the present time one of the dividend-paying mines in the county. The New Wheal Lovell workings are on the same lodes from which Old Lovell realised such large profits, and as the ground is developed the indications become very encouraging—in fact, more tin has already been raised from the shallow workings than Old Lovell yielded at the same depth; and there can be but little doubt that as the shafts are sunk lower this will become one of the best properties in the county. The mine has been working about four years, but, owing to serious difficulties, operations have not been pushed on with vigour till recently. Mr. Charles Bawden, however, having undertaken the management, the works have been expedited, and two new shafts are being sunk, with the most gratifying results. There are forty men now employed underground, and fifteen surface hands. There are eight heads of stamps, with a wheel of sufficient capacity for working sixteen. The pumping-engine and the whole of the working gear are in capital condition, so that the returns of the mine are not likely to have any drag upon them from this source for some time to come. By permission of the agents we went underground, and were quite satisfied, from the character of the work there, that, whatever may be the future of the mine, the agents, at all events, believe that it is destined to have a very long career. The timber-work is put up most substantially, and with an evident eye to permanency; and the whole of the levels are driven in the most legitimate manner. The main shaft is down 63 fathoms, but the richest piece of ground which we examined is a winze sinking from the 42, a few fathoms in advance of the 53, which is rapidly been driven east up to this point. The stuff we saw raised from the magnificent lode in this winze would make the heart of many a poor Cornish tributer leap for joy, not to speak of its effect upon dividendless adventurers.

New Lovell is managed by a committee, of which Mr. Frederick Hill, F.G.S., of Helston, is the chairman. That gentleman presided at the meeting, and amongst the adventurers present were Messrs. W. Morgan (London), J. E. Robarts (Bristol), J. Clarke (Bristol), J. Simons (for Messrs. Harvey and Co., Hayle), G. Lanyon, J. Pascoe, J. W. Tyacke, J. Joy, J. Perry, W. Odger, Bennet Johns, W. Perry, J. Thomas, J. Lobb, W. Thomas, J. Richards, H. M. Pearce, A. Penaluna, H. Pascoe, W. Downing, H. Priske, Chas. Bawden (managing agent), and Joseph Priske (resident agent).

The Chairman, in opening the proceedings, read the accounts for the months of June, July, and August, which showed a balance of 335*l.* 7s. 2d. against the adventurers. A call of 2s. 6d. per 4096th share was asked for. The merchants' bills and the accounts were then laid on the table for the examination of the shareholders.

Mr. Bawden next read the agents' report, as follows:—

Nov. 7.—Since the last quarterly meeting Hill's engine shaft has been sunk 6 ft., which completes it to the 63, all necessary timber work has been put in, and the ends driven east and west about 4 fms.: the lode at this point is poor. A crosscut is being driven south at this level to meet with a lode seen to go off in that direction a little below the 53, and in all probability it will prove to be the main lode. The 53 has been driven east of engine-shaft altogether about 14 fms.; the lode in present end is large, and producing stamps' work; this end is nearing the run of ground which produced tin in paying quantities in all the levels above, and from the decided change in the ground, we are of opinion that it is not far off another good shoot of tin. The 42 is driven east of Hill's shaft 27½ fms.: for the last 10 fms. driving we have gone over a good lode, averaging 15*l.* per fm.; the lode in the present end is about 2 ft. wide, and although fallen off in value it is, nevertheless, producing good stamps work. In the middle of this ground we have been sinking a winze, which is now down 3 fms. 4 ft., 3 fms. of which have been sunk since the last meeting, and from which 140*l.* worth of tin has been sold; the lode in the bottom is becoming larger, being now full 6 ft. wide, and although not so rich as it was is worth 30*l.* per fathom; this change we regard as only temporary, it being the largest lode we have ever yet seen in the mine, and is in advance of any end below, the nearest being the 53, which is within 6 fms.; a communication will (within the next three months), be made to this level, which will enable us to increase our returns. The 30 is driving east for the purpose of communicating with Lanyon's shaft, now in course of sinking below the 20. The winze below the 30, west of Hill's, has been communicated with the 40, which has considerably improved the ventilation of the mine. Lanyon's shaft is now in course of sinking below the 20 fm. level; down 2 fms., flat-rods and bob fixed at surface, shaft cased and divided, and the required pitwork all fixed; it will now be put down with a full force of men, as it is essential for the developement of this part of the mine. Having a large tract of ground comprised within the limits of the sett, it has been thought advisable to explore the eastern ground as near as possible parallel to the first bunch of tin discovered in the adjoining mine, East Lovell, from which good dividends were declared, and the result has been the finding of a lode, on which a shaft is now being sunk, and although only down 5½ fms. it contains tin, and is considered a valuable addition to the property. On the whole, we cannot but congratulate the shareholders on the improved prospects of the mine, and believe that by the present vigorous mode of operations our chances of success are more than ordinary.—Charles Bawden, Joseph Priske.

Mr. Pascoe asked how much the arrears were now, and what steps had been taken to get them in?——Mr. Bawden said the arrears amounted altogether to 589*l.* 13s. 4d., which, however, included part of last call. He then read a list of the persons in arrear, with the amounts due to the mine, nearly all of which were pronounced by the adventurers present to be good. With regard to cases where the debt was acknowledged, it was necessary to show some indulgence.——Mr. R. Cross (clerk to the managing committee) said there was not a halfpenny on the list but could be recovered. Some were paying by instalments.——Mr. Bawden said the persons they had trouble with were those who have relinquished their shares, and not the present shareholders.

The Chairman said the greatest possible indulgence has been extended to the defaulters, but there were a class of people who would never pay without being forced. It was a very disagreeable thing to be compelled to take legal proceedings against people, but they knew they owed the money, and why did they not pay their debts, like other people. He was happy, however, to say that the adventurers who had held by the mine had generally paid their calls promptly, and there was no disposition on the part of the managers to press those who required a little indulgence.

The report and statement of accounts were then received and adopted unanimously, and it was resolved to make a call of 2s. 6d. per (4096th) share, to be paid forthwith, a discount of 5 per cent. to be allowed on all calls paid before Nov. 21.

The Chairman said the agents were of opinion that the call just made would be amply sufficient to carry out works for the next three months. So far, therefore, as he could see, he thought everything was very satisfactory to the adventurers. (Hear, hear.)

Mr. Clarke enquired when Captain Priske was last underground, what was then the general condition of the mine, and what was his opinion of the winze under the 42 fm. level?——Capt. Priske said he was underground on the previous day. There was then a very good bunch of tin in the winze. There were no signs of failure, but, on the contrary, every appearance of a continuance. This bunch of tin was now worth 30*l.* per fathom. He was quite satisfied with the general appearance of the mine, as everything gave indications of rich ground at greater depth.

Mr. Clarke: The last call was made on 3000 and odd shares. How is it that it is now made on 4096?——Mr. C. Bawden said that a large number of shares (807) had been relinquished, but all the relinquished shares had since been taken up, thereby restoring the list to the original number.

Mr. Clarke: Would it not be better to have allowed the relinquished shares to lapse, for the benefit of the remaining adventurers?——Mr. Morgan: If that had been done we should now, instead of a 2s. 6d. call, have had to pay a call of 4s. or more.

The Chairman said that the committee had considered the matter very carefully, and unanimously came to the conclusion that the best course would be to get the relinquished shares taken up. He thought it was always advisable to keep up the original number of shares, if possible. It was entirely owing to the energy and perseverance of a few that the mine had been kept going, under very difficult circumstances, and in the face of a most unscrupulous local opposition. All sorts of rumours were set afloat respecting the property. It was stated that the mine was not worth a straw, that it was going to "seat," and other things equally depreciatory of the concern, and, of course, equally false. He had no doubt at all that the parties who so industriously set these reports afloat really wanted to get hold of the mine themselves, but in that laudable intention they had been disappointed, owing, as he had said, to the energy and perseverance of a few who had stuck to the mine from the commencement. He knew that most of the adventurers present had stuck to the mine from the beginning, and it was something to say that they were mostly local men, who knew the mine and the nature of the ground well, and amongst whom, moreover, there were no defaulters in the payment of their calls. For his own part, he had never sold a share, and did not intend to do so; he should hold every share he possessed, in full confidence that he should eventually be amply repaid. Now, with regard to the committee, he could speak with the greatest confidence for himself and his colleagues, that though their duties had been onerous they had done the best that could possibly have been done for the mine, and had at the same time saved the adventurers the expense of a purser. However, it would be a great relief to the committee to be able to share some of their responsibility with other adventurers, and as some gentlemen from a distance had recently taken a large interest in the undertaking, he should be most happy if they would allow their names to be placed on the committee of management. The present committee placed themselves at the disposal of the adventurers, and hoped they would so alter the constitution of the committee as might be thought best to ensure the prosperity of the mine. He had himself so much confidence in the venture that he was ready to agree to any proposition which would ensure a vigorous prosecution of the work. (Applause.)

Mr. Clarke said he represented 550 shares, held by himself and friends, in Bristol.——Mr. Charles Bawden said he and friends at a distance—but he referred more particularly to his friends—held over a third of the mine. Several gentlemen had expressed to him an opinion that every committee-man ought to hold a large interest in the mine; and one gentleman, holding 300 shares, had written to him to say that in his opinion every person on the committee should hold at least 50 shares. (Hear, hear.) Now, with the present committee, there was no rule which laid down the qualification for a committee-man. Therefore, as a large shareholder, though he had no fault to find with the management of the old committee, he still thought it would be much more satisfactory to the adventurers generally if there were an alteration in its constitution, for it naturally created confidence in the minds of shareholders at a distance to know that the management of their property was entrusted to gentlemen who were themselves largely interested in its prosperity. (Applause.) He, therefore, begged to propose, in accordance with the wishes of those large shareholders to whom he had alluded, that the following gentlemen form the committee, the qualification of which shall not be less than 50 shares:—Messrs. Fred. Hill (Chairman), T. E. Lanyon, J. E. Robarts (Bristol), J. Clarke (Bristol), and T. P. Tyacke.

The motion was seconded by Mr. Simons, and carried unanimously.

The Chairman, on behalf of the new committee, said they should at all times be happy to receive hints or suggestions from any adventurer. Carn Brea Mine, with which he was connected, was managed by a committee, half of whom were in London and the other half in the county, and its affairs were very harmoniously and successfully managed; therefore, he did not see why the same should not be the case with New Wheal Lovell. (Hear, hear.)

This terminated the business of the meeting.

The adventurers afterwards dined together, Mr. F. Hill presiding.

The Chairman, in proposing the health of the lord, the Duke of Cornwall, congratulated the shareholders on the great improvement which had taken place in the management of the Duchy property, so that now they might hold a sett under the Duke of Cornwall with as much security and advantage as under any other landowners.

The Chairman, in proposing the toast of the evening, "Prosperity to New Wheal Lovell," said he was much pleased to see so many adventurers present, who had shown their confidence in the mine by holding their shares from the commencement. No doubt when a great number of shares were relinquished in a mine it gave rise to the idea that something was wrong, and very likely some shareholders had been frightened into relinquishing by the adverse rumours which had been so industriously circulated by the enemies of the mine. That they had enemies he could only explain from the fact that the sett was situated so near a borough town. (Laughter.) For himself he was, in mining matters, neither a Whig nor a Tory, and he considered that it would be a great curse to Cornwall if politics were allowed to be imported into mining, and in saying so he thought he had the sympathy of every person who desired the prosperity of the county. (Applause.) Many shareholders, however, had relinquished simply from the inability to hold on. But a large number of shares having been relinquished, the committee had to consider whether they should throw them over the book, or get them out again. The latter course had been resolved upon, and, he was happy to say, with complete success, several gentlemen having come in and taken up the whole of the shares. In holding together in this little mine for nearly four years, they had had, besides the difficulties to which he had already referred, to contend with the great commercial depression which paralysed speculation throughout the country, and more especially with the depressed state of the tin trade. Great fluctuations in the price of tin brought to this country from Banca and from other sources large supplies, which have had the effect of reducing the price so far below a remunerative standard that several Cornish mines have been compelled to stop working; but the same cause has also diminished the supply from abroad as well as at home, and he thought there was now every prospect of an improvement. Well, having been able to surmount all those difficulties, he thought there was no fear of the success of New Wheal Lovell in future. (Applause.) They only required a continuance of that intelligence and energy which had recently been exhibited in the management of the mine, and he was confident they would soon have a very valuable property. The fact of the shares which had been reliquished by Cornishmen having been taken up by gentlemen from a distance, showed that the mine must offer a fair prospect of a good return, because that was the only thing which could induce men of capital to invest; and he fully believed those who had invested in New Wheal Lovell would find their hopes more than realised. (Applause.) He (the Chairman) was not Quixotic enough to cling to a hopeless concern, and his numerous business engagements would not permit him to devote his time where it was not likely to be remunerative; but he had stuck to this mine from the first, and his presence among them on that occasion was sufficient proof of his confidence in it. (Applause.) He must say they were most fortunate in having a most trustworthy, honest man as their captain. Captain Priske had been with the mine from its commencement, and had gained the confidence not only of every adventurer, but of everybody that understood mining who had inspected the works. (Hear, hear.) When that large number of shares was thrown upon the hands of the committee Mr. Charles Bawden came to inspect the mine, and thought very highly indeed of its prospects. He (the Chairman) then said to him, "If you think so well of the property, why don't you join us?" Mr. Bawden at once replied that he would gladly do so; and he did, as you have heard, to a considerable extent. What greater proof, therefore, could they have of the value of their property than the fact of such an experienced miner as Mr. Bawden, whose name was known all over England, embarking in it. They had undoubtedly an excellent mine, only requiring energy and capital to develope its riches. They had now got the new blood they required, and the result, he believed, would be highly satisfactory to all. They all knew that though Cornishmen understood mining very well, they did not possess adequate capital to develope the resources of the county. Look at Wheal Vor, which owed its existence almost entirely to London capital; there would have been no hope of developing that magnificent undertaking had it not been for the foreign capital invested in it, and so with other mines in the county. Whilst, however, receiving the assistance of gentlemen from a distance, it was the duty of Cornishmen to see that the capital entrusted to them was used to the best advantage, and to deal openly and fairly with those who conferred such benefits upon the county. (Hear, hear.) This he could safely say the managing committee of New Wheal Lovell would do. They had, he firmly believed, a good property, and honest, energetic agents, and a watchful committee to develope it. (Applause.) With the toast he begged to couple the names of Mr. Bawden and Capt. Priske.

Mr. Charles Bawden, in responding, said he had known New Lovell about two years, and from the first he had held a good opinion of the property, but it was not till within the last four or five months that he had an opportunity of investing in it. He then went into it largely, both for himself and for his own immediate friends, gentlemen in the North of England, where he had a numerous connection, having taken a large proportion of the shares previously relinquished. But, he must tell them that he had not taken this step from mere hearsay; he examined the whole sett carefully himself, both on the surface and underground, so far as developed, and quite satisfied himself of its value. He learnt that from only about 200 fathoms of ground developed—independently of the shafts sunk—2000*l.* worth of tin had been raised, and he asked himself, if so many superficial bunches of ore had been found so near the surface, what must it be when the mine got to a proper depth? (Hear, hear.) He had also before him the facts relative to the working of Old Wheal Lovell, on the same lode. That mine realised profits amounting to something like 180,000*l.*, but they did not commence to make profits till they had reached about the same depth as New Lovell had now. (Hear, hear.) Their profits were made principally from the 60 fathom level down to the 140; and more than that, he could tell them that New Lovell had already sold more tin than had been sold from the old mine at the same depth. (Applause.) Therefore, he asked them, as men of common sense, reasoning from like conditions, what might they not expect at deeper levels? So great was his confidence in the undertaking, that he had brought in a large number of first-class men from the North of England; and should occasion arise, it should be his endeavour to bring men into the concern who would carry it out to the end. He was certain it could not fail, if it were properly prosecuted, to be highly remunerative. Although he had been appointed manager of the mine, he thanked the Chairman for the manner in which he had spoken of Captain Priske. He (Mr. Bawden) had always had a high opinion of Captain Priske, and since he had become manager of the mine he had had no occasion to change his opinion; on the contrary, it had been strengthened, and he did not believe there was a better miner in the county than Captain Priske. (Applause.) And so long as he went on as he had done during the last three months—since he (Mr. Bawden) had had the management—the adventurers would have no reason to complain of the way in which their money was spent.

Capt. Priske also responded to the toast, expressing himself highly gratified at the confidence reposed in him by the adventurers and by Mr. Bawden, who, he was glad to say, consulted him upon every matter connected with the work of the mine. He was proud to be the captain of New Lovell, because [illegible] see that there was a mine there, and knew that if they only persevered [illegible] would be well remunerated for their labour. (Applause.) Of course, he [illegible] the work they were now doing ought to have been done a year and a-half ago, but he could not help that, for in such a depressed time it was pretty well to keep themselves above water. However, with a vigorous carrying on of the works, he had no doubt that they should very soon pay costs, and then a dividend must quickly ensue. (Applause.)

Mr. Bawden, in proposing the health of the shareholders from a distance mentioned, as a proof of how much Cornish mining is indebted to foreign capital, the fact that he had himself, within the last two years, been instrumental in bringing from 63,000*l.* to 65,000*l.* into the county. They had amongst them three gentlemen who represented the distant shareholders—Mr. Morgan, who had been an adventurer from the commencement of the mine; Mr. Clarke, who had recently brought upwards of 500*l.* into the concern; and Mr. Robarts; and he begged to couple the names of these gentlemen with the toast.

Mr. Clarke, in responding, said he had been a shareholder to a small extent for some time, but, looking at the position of the mine, lying on profitable lodes, and the splendid bunches of tin discovered at the shallow levels, he was induced recently to invest more extensively, and to recommend the mine to his friends, and from what he had seen during his inspection of the mine that day, he was fully convinced of the wisdom of what he had done. (Applause.)

Mr. Morgan and Mr. Robarts also responded, expressing their confidence in the future of the mine, and in the energy and ability of the manager, Mr. Bawden, and Captain Priske.

Mr. Clarke proposed the health of the Chairman, who had, from the commencement of the mine, taken a very great interest in its prosperity, and being a Cornishman, he would not have been likely to do that (at least according to what he had heard of Cornishmen) unless he had a fair chance of obtaining a good return for his money. He had told them that day that he should be happy to continue as Chairman of the committee, and he (Mr. Clarke), as one of the new members of the committee, should have great pleasure in acting with him.

The Chairman, in thanking the adventurers for the warm manner in which they had received his health, said, on behalf of the old committee, that they had never been a difference amongst them in respect to the management; at the same time he quite agreed in the course which the adventurers had adopted at the meeting; it was only right that those who held a large interest in the mine should be represented on the committee. (Hear.) He looked upon the

importation of distant capital as a most propitious circumstance for the mine. He had stuck to the mine himself throughout, because he believed it was worth sticking to, and because he believed, as a Helston man and as a Cornishman, he ought to make every exertion to develope Cornish mines, and to keep their fine old Cornish miners at home, for in doing that he believed they were not only benefiting themselves, but the conntry at large. (Applause.)

Some complimentary toasts brought the proceedings of the evening to a close.

CAPE COPPER MINING COMPANY.

The fourth ordinary general meeting of shareholders was held on Wednesday, at the Terminus Hotel, Cannon-street,

Mr. EDMUND A. PONTIFEX in the chair.

Mr. J. C. LEAVER (the secretary) read the notice convening the meeting. The report of the directors stated that the diminution of the value of the company's produce, caused by the difference between the price of copper and that ruling at the date of the first general meeting, has amounted to 57,952*l.*—had the earlier prices been maintained, the profit to the end of 1866 would have afforded dividends equal to 97,325*l.*, over 25 per cent. per annum. The result of the working for the year 1866 has been especially affected by this cause, and was, moreover, very unfavourably influenced by other circumstances, which have now ceased to exist. The transport, owing to the copious rains which fell during the season of 1866, was carried on briskly, and the quantity conveyed to the coast proved that with ordinary seasons the means provided by the public riders would be quite equal to the requirements of the district. The directors have always kept in view the necessity of obtaining a reduction in the cost of this department; and they have now the pleasure to report that Mr. Woodifield, the new superintendent, having frankly represented to the carriers that the continued low prices of copper ore necessitated an important reduction in cost, they have agreed to a new tariff of rates, which is affording a considerable saving to the company. An adjustment of the respective rates for up and down loads has also been adopted, which it is hoped will give a stimulus to the delivery of fuel for the smelting works and general materials for the mines. Mr. Woodifield reports that by the commencement of the next riding season a considerable section of the new road will be temporarily opened, which will enable the carriers to avoid the most difficult ascent that has hitherto existed, and it is hoped will further materially reduce the cost of transport. The discoveries of ore in the Ookiep Mine during the year were very considerable, and the latest advices state than an engine-shaft, which is being sunk at a point beyond the present eastern limit of the workings, is passing through ground of an exceedingly favourable nature, and the chief mining agent anticipates that it will prove the ground in that direction to be valuable at a lower depth than has yet been reached in any part of the mine. The effect of the operations carried on during 1866 for facilitating the future extraction of ore will be that the proportion of costs to returns is reduced by 2*l.* 19s. 10d. per ton of ore; and that the assay of the ore is raised 4¾ per cent., and the proportionate cost of transport materially lessened. These facts warrant the directors in anticipating that, for the future, ore may be brought over to a profit, even at the present exceptionally low price of copper. The works of trial for the development of new mines, the most important of which were at Nababiep, were pushed on with much vigour during the year; but although most promising indications were met with, they have not resulted in the discovery of a sufficiently concentrated mass of ore to allow of any profitable working. The expenditure on these works has not been without result, as large quantities of ores averaging about 10 per cent. of copper have been obtained, and a much larger amount discovered; and had the copper market been in a more favourable condition, their value would doubtless be a considerable set off against the costs; but with the present prices for copper ore, the directors have not considered it judicious to continue this expenditure, and the trial works have been suspended. The amount standing to the debit of the Nababiep trials is 5618*l.* 9s. 6d., but the directors trust that the stock of ores lying at that mine will, at some future time, be utilised so as to reduce that amount. The state of the copper market has also exercised a very unfavourable influence on the smelting operations, and the directors have again has been considered advisable to suspend the smelting of the stocks of poor ores in the burrows, as with the present prices they do not yield a sufficient value to leave a profit. Large quantities, however, of fair average ores have been carefully extracted, which will, it is hoped, at some future time be smelted with advantage. In the meantime the furnaces are being used for reducing a portion of the ore hitherto water-dressed; the actual result of this operation is not yet fully proved; but there is reason to think that it will be an advantageous one. In addition to the stocks of poor ores for smelting, to which during 1866 an increase was made from Ookiep of about 1700 tons, containing about 9 per cent. of copper, there is an accumulated reserve of about 5500 tons of dressable ore at that mine, estimated to assay over 10 per cent., and capable of being dressed to about 24 per cent. No further costs will have to be charged to these ores, beyond that of dressing or smelting, and should it be proved that the furnaces can deal with them satisfactorily, they will quickly be brought to a marketable condition. The balance of profit brought forward from 1865 was 6468*l.* 12s. 7d.; but owing to the further decline of the copper market, a deficiency was experienced in the realisation of the stock of ore brought forward from that year, amounting to 1112*l.* 3s. 9d., forming a debit to the account of 1866. In addition to this, the large stock of ore accumulated at the mines during 1865, in consequence of the drought in that year, delayed the shipment of the yield of 1866, and led to the necessity of large advances being obtained against them pending their arrival and sale; and as a large portion of such advances occurred during the commercial crisis, when the rates of discount were unusually high, the interest and discount account forms a further serious diminution of the profits of 1866. The balance of profit to Dec. 31, 1866, is 2834*l.* 2s. 5d., but against this are the balances standing to the following accounts:—Nababiep trial works, 5618*l.* 9s. 6d.; Koperberg trial works, 1e3*l.* 16s. 1d.; new road, 931*l.* 2s. 8d.; and reduction works, 5555*l.* 2s. 3d. The directors, therefore, propose to apply the balance of profit as follows:—To Nababiep trial works account, 1500*l.*; to reduction works account, 1000*l.*: leaving 331*l.* 2s. 5d. to be carried forward to next account. The operations of the year 1866, although not resulting in the distribution of any dividends, have so greatly developed and improved the condition of the mine as to warrant the anticipation that the expenditure will be well repaid by the profits that will ultimately be obtained.

The CHAIRMAN, in moving the adoption of the report and balance-sheet, said he must first express his regret that the chair was not so ably filled, as heretofore; but Mr. Bevan was anxious to show that each member of the board took an equal share of the work; and, therefore, he (the Chairman) had to ask for the indulgence of the meeting while he addressed a few words upon the position and prospects of the enterprise. He certainly envied his predecessor that his lot had fallen "in pleasant places," having during his presidentship declared a dividend to the amount of 20 per cent. per annum. While he deplored that he was not in a position to announce the declaration of a dividend, he should have no difficulty in proving that its absence had not been occasioned by any default of the directors, but that it was entirely owing to the exceedingly low price of copper—as low, indeed, as it had been since 1826. The directors had taken every possible step in order to meet this altered state of circumstances, and had succeeded so far that even if the present price continues they would be able to earn very handsome dividends. (Hear, hear.) The main causes which had operated against their remunerative progress during the past year were eight in number. The first was the cost of removing the top rock, and of sinking the incline tunnel. Shareholders would probably be aware that in ordinary mines the system of development carried on was the sinking and timbering of shafts, and driving and timbering levels; but their mines partook more of the character of a quarry, in waich the mass of mineral was enormously large, and on the top of which was a cap rock of earthy matter. The parties from whom the present company purchased the mines had adopted the plan of extracting the ore without removing the top rock, and for some few months after the company became possessors they were compelled to follow in their footsteps, but subsequently had been obliged to remove the top rock. At first this had yielded so much ore as to pay the expenses of removal, but gradually, as the deposit extended in depth, the quantity of top rock increased, and it ceased to yield ore, and therefore became an absolute burden on the mine. The removal of the top rock not only incurred a great deal of cost in itself, but impeded the general operation, by rendering inaccessible some of the most valuable portions of the mines, and, therefore, of course, reduced the assay. The amount of top rock, however, that had now been removed was, according to the report of the manager, all that would be necessary for several years, while the incline tunnel afforded a ready means of raising the ore. The expenses in connection with those operations had now ceased, and from them benefit would be derived hereafter, inasmuch as they would be able to raise the ore at a less cost per ton than heretofore. The second cause was the lower assay of the ores, owing to the impediments above referred to; that had amounted to no less a sum than 2*l.* 10s. per ton on the quantity of ore raised during 1866, which made an aggregate difference of the sum of 7850*l.* The third cause was the gradual wearing out of the Spectakel mine. This mine had several times previously presented similar indications of exhaustion, and, therefore, the works were proceeded with in the hope of making further discoveries, but so far unsuccessfully. The cost of this became a charge on the profits of the other mine, and further explorations were postponed to a more favourable time. The fourth cause was—it was considered wise in mining not to trust to one string to their bow, and so they had pushed on their explorations in all directions, and the result was that other deposits of ore had been found, each of which would be considered here of great wealth and importance; and, therefore, although there appeared on paper to have been a considerable unproductive outlay, yet when the price of copper became more remunerative the returns from that source would become productively available. They had written off 1500*l.* on that account against profit and loss, but he did not think the cost incurred an absolute loss, because he hoped that at some future time those works would be utilised by the discoveries made. The fifth cause was the further loss upon the reduction works. They were originally erected with the view of smelting the large accumulations of poor ores left by their predecessors. That outlay was by no means thrown away, for they anticipated, following the example being set them at Chili, and almost all large copper-producing countries, they would find it desirable to smelt upon the spot, and so bring home copper instead of ore. They thought they would be able to use their furnaces with great advantage, and, in point of fact, secure the smelters' profits. The sixth cause was the depreciation in the value of stocks. The estimates last year were made at a valuation below which it was not thought probable the price of copper would fall, but, notwithstanding, they found that while in 1865 the price per unit was 76s. 5d., that during 1866 was 14s. 5d., which caused a loss of about 1100*l.* in the valuation of their stocks. The seventh cause was the unprecedented low price of copper, which affected the ore raised during 1866 as well as the unsold stocks of 1865. At the last meeting it was thought the price could not but be at its lowest, but in that respect he need hardly say they had been disappointed. The eighth cause was the amount of about 3000*l.*, which was due to the heavy interest they had to pay on account of advances required when money was so dear. This was mainly caused by the drought of 1865, which prevented the ores coming forward in time to meet the current expenses of 1866. There was another small cause—the tramway. At present it was determined not to proceed with that, and for this reason—the strength of a girder is the strength of its weakest part, and so it was with the roads, and the weakest part of the roads was the pass over the mountains. It would be manifestly useless to supply, by means of a tramway, more stuff to the mountain roads than they were at present capable of removing. They had every reason to anticipate that by the next riding season the most difficult part of the road will have been considerably improved. Any amelioration would make a considerable difference in their returns. In 1867, in addition to the removal of those causes—except the price of copper, and in that they might reasonably hope for some amelioration—they would be able to extract their ores at a lower price, they would have a reduced cost of transport, and (as stated in the report) there was an accumulated reserve of about 5500 tons of dressable ore at Ookiep, estimated to assay over 10 per cent., and capable of being dressed to about 24 per cent. No further costs would have to be charged to these ores, beyond that of dressing or smelting. Those had not been taken into account in their realisation, because it was difficult to estimate their value. It could be dressed up to 24 per cent for about 10s. per ton, which would nett the company about 10,000*l.* profit at the present price of copper. In the report a comparison was made as to the costs and returns of 1866 and 1867, so far as the latter year had gone. The comparison, therefore, was made between the first eight months of 1866 and the corresponding period of 1867. In the eight months of 1866, 2169 tons of 26¾ per cent. were raised, equal to 58,020 units of copper. The mines costs were 17,101*l.*; the present cost of every description of bringing the ores from the mines to Swansea is covered by 10*l.* per ton, which, on 2169 tons, was 21,690*l.*, making a total cost of 38,791*l.*; that divided by the number of units made a cost of 13s. 4½d. per unit, but as the reduced transport was not then in operation, the cost would be increased to over 14s. per unit. In the eight months of 1867, 3399 tons were raised, averaging 31½ per cent., equal to 107,068 units of copper. The mines costs were 16,637*l.* to which was to be added 10*l.* per ton, or 33,990*l.*, making a total cost of 50,627*l.*, equal to 9s. 5½d. per unit; but as the reduced transport was not operating during the whole year, 9s. 10d. should be taken as the cost per unit, against 14s. in the previous year. The directors had considered it their duty to lay this statement before the shareholders, to prevent them parting with their property at an undue depreciation. From the facts above enumerated it would be seen that between the total cost of 9s. 10d. per unit and the present selling price of 14s. 3d. there was a very handsome margin, and moreover, when the difference was multiplied by the total number of units raised, it would be seen that the saving was very considerable. On ore averaging 31½ per cent., each 1s. per unit saved in cost, or obtained by increase of price, was equal to 9495*l.* on the quantity now being raised in a year. Although it was said that nothing was so uncertain as figures except facts, yet the figures and facts he had adduced were of such a nature that they might be safely relied on, and that for the present year they would do exceedingly well. (Hear, hear.) As regards the appointment of the new superintendent, Mr. Woodifield, he (the Chairman) might state that Mr. Woodifield, who was a fellow student with himself in the College of Civil Engineers, had been a resident in the colony, and in the colonial service for many years. Mr. Woodifield had devoted himself with great energy and success to the company's interests. The first thing he did was to call a meeting of the riders, at which he told them the present price of copper was such that if they did not ride the ore down at a less rate the company must reduce its production to a minimum. The result was he succeeded in making an arrangement by which, instead of riding 2000 lbs. to the ton, they should ride down 2240 lbs., thereby effecting a saving of 11 per cent. on the cost of carriage. In addition to that, the rates of carriage had been arranged at 4*l.* per ton each way from the mines to the coast, and *vice versâ*, instead of 5*l.* down and 3*l.* up as heretofore, and, as the quantity of ore brought down was larger than the supplies taken up, they estimated upon making a saving of between 4000*l.* and 5000*l.* a year. There was no doubt they possessed a great property, and in order to prove it he would compare its present results with those realised by that paragon mine—the Devon Great Consols. He found, by referring to the report of the Devon Great Consols, that, during the first eight months of 1866 they raised about 94,000 units of copper, at a cost of 8s. 3d. per unit, while the Cape Copper Mines during the same period of 1867 raised 106,000 units, at a cost of 9s. 10d. per unit. But the Cape Copper ore being much richer than that of the Devon Great Consols, would fetch a higher price: the result is, therefore, about the same, but the market value of Devon Great Consols was 450,000*l.*, while that of Cape Copper was about 100,000*l.*, which plainly showed that their property at the present moment was selling at very much below its proper value. (Hear, hear.) As to the accounts they explained themselves; he might mention, with regard to the value of the stocks of ore, that nearly the whole of it, with the exception of 200 tons, had been realised. Having stated that he should be glad to afford any further information that shareholders might desire, he concluded by moving the adoption of the report and accounts.——Mr. OSGOOD HANBURY Jun., seconded the proposition.

Mr. ATKINSON had calculated that, if the value of the 5500 tons of ore referred to by the Chairman were credited, the profit and loss would be 1800*l.*——The CHAIRMAN said they had put no value whatever on the stock of ore on hand at Nababiep.——Mr. JOHN TAYLOR said that although they did not value it in the accounts, they did not by any means regard it as worthless, and at Ookiep they were not sufficiently advanced with what he might call their experiments in smelting the ores to speak with any certainty about them. He believed they would prove to be of considerable value. There was one thing perfectly certain, that they would smelt a great deal better than ever before, but not having arrived at that point it was useless to say anything with regard to it. The ore at Ookiep increased in quantity and richness, and he believed the average assay of would, probably, come out better than expected. Such a property ought to, and must be made to, give a good profit. Shareholders should recollect that they did not hold merely the leasehold of the estate, but that they were the possessors of an enormous freehold estate, upon which there were many mineral deposits bearing copper. The present mines were found by comparatively small searches, and there was no doubt others of an equal value would be found, but already they had enough rich ore for all the carriers to take.

Mr. RANSOM asked what quantity of coal was consumed in reducing 100 tons of ore?—Mr. TAYLOR said the ore was smelted by blast-furnaces. It seemed impossible to secure the services of anyone well experienced in the smelting of copper ore with the blast. They employed coke as the fuel: 1 ton of coke would run down about 5 tons of ore.

The CHAIRMAN, in reply to a question, said that the rates of freight had been much reduced.

The motion adopting the report and balance-sheet was received and adopted unanimously.——Upon the proposition of Mr. BEVAN, seconded by Mr. HODGSON, the election of Mr. Adolphus Focking and Mr. J. Galsworthy was confirmed.

Upon the proposition of Mr. STANILAND, M.P., seconded by Major PLATT, the retiring directors (Messrs. Bevan and Hanbury) were re-elected. The auditors were re-appointed.

A unanimous vote of thanks to the Chairman and directors termina ted the proceedings.

LUCY PHILLIPS GOLD AND SILVER MINING COMPANY.

The first general meeting of shareholders was held at the office, 449, Strand, on Tuesday,—Mr. VANSITTART NEALE in the chair.

Mr. W. HANNAM (secretary) read the notice convening the meeting.

The report of the directors was as follows:—

The directors of the Lucy Phillips Gold and Silver Mining Company (Limited) have much pleasure in meeting the shareholders at this the first annual general meeting of the company, as they do so under circumstances which could scarcely have been more favourable. The shareholders have been from time to time kept fully informed of the various stages of progress made towards the completion of the work in hand. It is not, therefore, necessary to recapitulate in detail statements that require no alteration or modification through later sources of information. As, however, there may be several shareholders who have not seen these reports, the directors propose briefly to advert to the leading points of interest since the formation of the company. Although this company was formed twelve months since, owing to the illness of Captain Henry James, ensuing immediately upon his engagement, and the impracticability of satisfactorily supplying his place, a delay of some months took place in active operations being commenced. The directors see no cause for regret at this circumstance, as had Captain James been able to have started at an earlier period of the year it is doubtful if he would have reached the mines sooner than he did, or, if he had reached them, would have been able to have furnished so satisfactory and conclusive a report. Some delay occurred after Capt. James's return to Portland, where he had ordered the machinery, through the destruction of the foundry at that place by fire; but he has since been able to obtain at San Francisco machinery of a high character, at a cost which, including carriage to Portland, will not exceed the sum originally contracted for at the latter place. This outlay also led to the inspection by Captain James of some of the leading gold mines on the American continent, enabling him to judge by comparison of the value of the property of this company—a circumstance the directors think of considerable importance. The result of this as well as his opinion on other points of interest has been so fully set forth in a recently-issued circular that the directors do not feel called upon to add anything to that document—the more especially as Capt. James has prepared a fuller and more elaborate general report, which will be read to this meeting, and is himself present to reply to any questions that the shareholders may wish to put to him. It was not quite certain whether the machinery will be got over the mountains prior to the winter setting in. The directors had hoped to have been in a position to have answered any question on this point in the affirmative, but up to the present they are without advices that would warrant their assuming it as a certainty. It must be borne in mind that, although this is necessarily a question of interest to the shareholders, inasmuch as dividends would be delayed some months in the event of the machinery not reaching the mines this winter, still such an occurrence would in no way deteriorate the value of the property. The directors would call attention to a most important point—that once there and erected the stamping-mill can work all the year round. The directors, in notifying the call of 1*l.* per share recently made, stated that the explanation of such call would be given at this meeting. It is simply that they might not find themselves without resources at once available in the event of their agents requiring further funds for completion of the works, the storing of provisions, or other incidental expenditure. It should be recollected that this call was made long after the period which the prospectus originally indicated as the time at which 4*l.* per share would be required.

According to the notice given, the directors retire from office, but offer themselves for re-election, with the exception of the late Chairman, who, from the state of his health and the pressure of other engagements, retires permanently. They have much pleasure in recommending Mr. W. L. Webb, of the Stock Exchange, to fill the vacancy thus caused.

The CHAIRMAN moved the adoption of the report and balance-sheet, and, in doing so, stated that he had but little to add to that which had been communicated in the document just read, or to that information which had been and would be communicated by Captain Henry James, whose reputation as a great practical mining authority was so thoroughly well-known and appreciated. As, however, there might perhaps be an opinion that some delay had taken place in sending out the machinery, and also in its reaching the mines, it would be as well for him to state that there was a high range of mountains between the seaboard and the mines, and, being of a much higher level, was covered with snow during a certain period of the year; therefore, it was somewhat difficult during these periods to get the machinery to the company's property—hence, there was some probability that the machinery might not reach the mines this year. If there had been any error on the part of the directors in not sending out the machinery, it had arisen from a desire not to uselessly expend any of the company's capital until they had been perfectly satisfied as to the value of the property. (Hear, hear.) Had the many statements put forth as to its value—he might say its extraordinary value—turned out to be unfounded, the shareholders would have had good grounds for blaming the directors had they incurred any outlay on account of machinery; but, as soon as those statements were more than confirmed by Capt. Henry James, they felt themselves perfectly justified in incurring the expenditure. As to the mines themselves and their resources, he could not do better than refer the shareholders to the reports of Capt. Henry James, and as that gentleman was present he would be able to afford any information that might be required in addition to that he had already communicated. As soon as the machinery (which Capt. James described as being in every way effective for their purpose) reached the mines they would be able to continue operations all the year, because, although there was, as he had already said, a high range of snow-crested mountains between the sea and the mines, the latter were situated in a lower district, and of a southern exposure. That was an important feature in their enterprise, inasmuch as the operations would not be intermitted, and the stamps could be kept at work continuously, and would ensure the payment of large dividends. He concluded by moving the reception and adoption of the report and balance-sheet.——Mr. RIMINGTON seconded the proposition.

The CHAIRMAN said, with the view of placing before the shareholders all the information the board possessed in connection with the mines, he would ask Mr. Hannam to read the report which Capt. James had prepared for this meeting.

Mr. HANNAM read the report, as follows:—

When I attended before the board of directors of this company on Oct. 16 last various questions were asked me by the directors present, and a wish was expressed that I would, in addition to the various reports that I have already made, attend here to-day, to give any further particulars that I might have acquired for the benefit of the general body of shareholders, and also answer any questions that may be put to me relative to this mining property. I am here to-day for that purpose, and as I presume you are all aware of the contents of my reports upon this mine, I will merely refer to one or two points likely to interest you, and, at the same time, shall be happy to afford you any information I am able. When I arrived at San Francisco I made enquiries of all descriptions of persons, from the judge to the miner, of the merits of Idaho, and was informed on all hands that the richness of the country in gold and silver was immense, but that the Yuba district, where your mine is situated, was pre-eminent. The Atlanta ledge was pointed out to me as an instance of what could be reasonably expected from the district, and the mining press generally, as I know for months past, had spoken of the Atlanta as the noted Atlanta, the famous Atlanta, &c. From all these statements, I was prepared for a country abounding in immense wealth, but I must confess, gentlemen, and congratulate you upon the fact, I was not prepared for what I met with. I examined carefully your property, which I was able fully to do, as it had been opened upon for a considerable extent by tunnelling on it course. The Lucy Phillips and the Atlanta are on the same lode, the champion lode of a group of four; these lodes run in groups of three or four. I carefully examined the quartz of the Atlanta ledge taken from a shaft to the east of the Lucy Phillips with the quartz of the Lucy Phillips property, and which still further confirmed my opinion of its being on the same lode. The advantages of your property over the Atlanta are very considerable, inasmuch as the Lucy Phillips ledge is much larger, and better situated for mining purposes, and also for taking the quartz to the mill. In fact, it is my opinion that when they open for the bottom tunnel, and if the lode is found of the same size as in the upper tunnel—40 ft. wide—the best and cheapest way will be to quarry it, and when on the mine I called Mr. Graham's particular attention to this matter; but in either case the expense of mining will be but little in comparison with the richness of the ore. I learn from your financial agent that since my return the Atlanta Mine has produced, at a depth of 8 ft. below the surface, 4½ lbs. of bullion from 55 lbs. of quartz; and that 10 tons of the average rock was then being passed through the Defries mill, to test the average yield. Since then, I learn from New York that the result was 300 lbs. of bullion (gold and silver), and that 150 bricks of bullion, the 300 lbs. just mentioned, were on their way to New York. It is impossible to fix the value per ton that will be obtained by crushing and amalgamating the quartz, but I have every reason to believe that it will be found to produce 80 per cent. of the gold, and, perhaps, 50 per cent. of the silver, according to assay. I found in California that the mills there produced nearly 90 per cent. of gold, according to assay; and with our improved machinery I believe we shall be enabled to save more than half of the silver. I would remark here that the samples of quartz brought by me to England I broke with my own hands from various parts of the Lucy Phillips lode, and that they never left my possession until my arrival in England, when I delivered the same to Johnson, Mathey, and Co. for assay, who informed me that the amalgam was easily effected, and that there was but little base metal mixed with the quartz, "merely a trace of iron and sulphur." The sample was picked as an average sample, to the best of my ability. The estimate in my last report to you from San Francisco showed a profit of $22,880,000 upon the working of the quartz above the proposed lower tunnel, but since the assay before mentioned I do not hesitate to affirm that the profit will be many millions sterling. After inspecting this mine, and one or two others in the neighbourhood, I came down to California and inspected some of the noted mines in that State, partly from a natural desire to see such splendid properties, but chiefly to ascertain the mode upon which they were worked, and, by comparis n, to enable me to arrive at the best machinery for your purposes. The quartz ledges in California seldom exceed 2 ft. wide in the best of the mines, and in many of the mines is from 3 to 8 in. only; therefore the lodes in Idaho are very far superior in size, and I believe will be found equal, if not superior, in richness, to the lodes in California; and in two or three years from this time I am of opinion that experience will establish the mines in Idaho, and near and among the rocky mountains, as the richest and most extensive quartz mines in the world. You have a splendid site for your mill, which can be worked all the year round, and wood and water in abundance. Labour is moderately cheap, and provisions are now full 40 per cent. cheaper than they were in 1865. The Pacific Railway will soon abridge the space that separates your property from England. The country is well controlled, and the laws respected. You have excellent machinery, which I hope at this moment is at the mines; this will be controlled by the season. The bullion can be safely intrusted to the care of Wells, Fargo, and Co., who will guarantee its safe custody and delivery in London if necessary. You have no Indians to fear in that district. From the short acquaintance I had with Mr. Graham, I believe you have an honest, straightforward man, and who is quite competent to carry out the mining operations in all its branches In addition, I would say that I ordered two sets of those parts of machinery that might possibly be required.

The CHAIRMAN said although Capt. James's report was in everyway satisfactory, yet Capt. James was present to reply to any question shareholders might desire to put.——Mr. TILDESLEY had noticed that Capt. James in his original report stated that as, in returning from the mines, he had to travel over 26 miles of snow, he was unable to carry all the quartz which he had taken from the mines. What he wanted to know was if those particular specimens which he did bring with him were among those which he had himself selected?

Capt. HENRY JAMES replied that in examining the workings in the Lucy Phillips adit, which was something like 37 feet long, and driven into the side of the mountain, he found a cross-cut had been driven for about 27 ft., with the view of reaching the foot or underwall of the ledge, and it had not been reached; and those specimens—which, however, were not specimens, but fair samples of the general body of the quartz—he brought home with him he took himself from a large quantity; they were, indeed, fair samples, taken as one would do to ascertain the average value of an accumulation of corn, or anything else. He took them promiscuously from a mass of quartz of something like 10 cwts. He was compelled to leave a portion of those samples behind, in consequence of their weight, but the remainder never passed out of his hands till they were given over to the assayers in this country.

The CHAIRMAN thought Capt. James would tell the meeting that he was very much surprised at the result of the assays.——Capt. HENRY JAMES confessed that he did not expect to find anything like the percentage of gold or silver. He would have felt perfectly satisfied had the yield been not more than $40 to $50 per ton, but when they got 40 to 50 lbs. bullion per ton, he need hardly say it much surprised him. He calculated they might at present lose about one-half of the silver by the ordinary treatment; but by the improved machinery sent out they would probably save some 50 per cent., and still an improvement upon that as the character of the ores came to be better understood. He found in the Californian mines generally there was a very large amount of produce lost for want of more effective machinery; and when he stated, with reference to Lucy Phillips, that 50 per cent. of the silver contents of the ore might be lost in treatment, it must not be understood that that proportion was thrown away, for it would pay well for working over again.

Mr. TILDESLEY asked if there was a good supply of labour?—Capt. JAMES said there was no lack of labour at present, nor did he think there ever would be, because the proportion of Coolie and other labour increased, as new mining camps were opened. The present price was about $5 per day, in consequence of provisions being high, but these were 40 to 50 per cent. lower than two years since. As to the Atlanta Mine (to which he had referred in his report), they had there a 12-stamp mill, which was more like a Custom mill, because it would stamp quartz for anybody who chose to send it.

Dr. ASPLAND asked how many miners they were likely to employ?——Capt. JAMES said that ten miners would be quite sufficient to keep their 20-stamp mill going. In reply to further questions, he stated that in his former reports he had computed that ten men would raise 30 tons of quartz per day, and that a 20-stamp mill would crush that quantity. He had also estimated that there should be a clear profit of $1000 per day, but according to the result of the assays the gold and silver contents of the ore will be ten times the amount he had originally computed; instead of there being a profit of $1000 it would amount to $10,000 per day. But $1000 per day would pay a good interest upon the capital invested.

The CHAIRMAN said that by the company being sellers of their own provisions to the men they would recoup themselves a considerable part of the cost of labour. And one object the directors had in making the present call was to place them in a position to provide those provisions.

A SHAREHOLDER asked what profit the Atlanta was making?——Captain JAMES said the profit must be enormous, inasmuch as 300 lbs. of bullion (gold and silver) was produced from 10 tons of quartz, which was considered to be the average yield.

Mr. WEBB asked if the samples brought home by Capt. James contained visible gold?——Captain JAMES said he never saw a spot of gold in any of the samples until examination of a few pieces Messrs. Johnson and Matthey had saved to show him, and this only by means of a powerful magnifying-glass.

Mr. WEBB said this was the best proof that could be given that Capt. James could not have selected the quartz, inasmuch as the whole mass must have presented the same appearance.

The motion adopting the report of the directors and the balance-sheet was received and adopted.

Dr. ASPLAND had much pleasure in proposing that Mr. W. L. Webb (of the Stock Exchange) be added to the direction. He confessed that he was satisfied, and more than satisfied, with the candid and honest statements of Capt. James, and with regard to the proposition he (Dr. Aspland) had made with reference to Mr. W. L. Webb, all he could say was that in that gentleman they would have a very influential and efficient director. He had entire confidence in the board, and, with the addition of Mr. Webb, the shareholders would have a guarantee that their property would be fairly and honourably represented. (Hear, hear.) He proposed that Mr. W. L. Webb be added to the board, and that the retiring directors be re-elected.——Mr. HIGGS seconded the proposition, which was put, and carried unanimously.

The CHAIRMAN, in acknowledging the vote, stated that they would do the best they could to promote the interest of the company, and he hoped they would be able at the next meeting to afford some substantial evidence of the value of the property.——Messrs. Cash and Edwards were appointed auditors.

Mr. GETHING congratulated the shareholders upon having secured the services of a gentleman of such position and influence as Mr. Webb, and stated that he believed it was the intention of the directors to remove the offices of the company to the City, where shareholders would at all times be able to obtain any information they may require.

A vote of thanks to the Chairman and directors terminated the proceedings.

MAES-Y-SAFN (near Mold).—This mine is now in good course of working, and selling 200 tons of lead ore monthly, which leaves a profit of about 1000*l.* a month, which produce and profit it is hoped will be increased as the mine is more fully developed.

FOREIGN MINES.

NEVADA LAND AND MINING COMPANY.—The following intelligence has been received from the company's agent at their Whitmore property, under date Star City, Oct. 5:—The De Soto Company, on the Sheba ledge, next to the Whitmore, is having a great success in its recent workings. The vein is now 8 ft. wide, and highly charged with the finest kind of Sheba ore. They are now in 600 ft. with their tunnel, 300 of which was run transversely to the vein to tap it, the remaining 300 being run along and upon the vein, in a southerly direction—that is, toward the Whitmore ground. At the point now reached, they are 300 ft. deep from the surface. The walls are becoming more vertical, and are as smooth and polished as a mirror. This is no exaggeration, but is literally true. When the contents of the vein are extracted, the wall is as smooth as glass, and reflects light as from any other highly polished surface. After some weeks exposure to the air, the clay partings disintegrate and crumble, and leave an apparent roughness in the wall, but that the Sheba is a true fissure vein the recent developments leave no doubt. They are not mining for ore now, but are simply exploring the vein, with a view to future working in the course of 15 or 16 months, when the railroad shall have been completed. They are working towards the Whitmore part of the Sheba all the time, and it is highly gratifying to the owners of Whitmore to find the Sheba vein improving in regularity and compactness as it approaches their location. The American Basin Company is still at work on the location immediately on the south side of the Whitmore. They have not reached the vein yet, but it seems impossible that it can be much further off. The operations of this company in Golconda district are proving very successful. Their mill works well, and they have abundance of ore. They lack power for their mill just at this period of the year, and they talk of getting an engine at once. The superintendent of the "Yankee" informs me that his company in New York feel much encouraged with their prospects, and that their stock is advancing in value.

CAPULA.—Capt. Paull, Sept. 25: The wagons arrived last Friday with the engine for Capula; they have been more than six weeks on the road, and several pieces are broken, principally the flanches of the boiler-tubes; it is deposited in San Cayetano yard, Real del Monte. The engineer has promised to have it cleaned and put together previous to taking it to Capula. We have not yet opened the cases containing the cylinder, &c., on account of the bad weather; we have had constant rain for nearly a week, and it still continues. We shall commence the engine-house as soon as the weather permits.—Mine: Nothing has been done in either the Esperanza or San Enrique ends since my last. The stopes east and west of La Bomba shaft are without alteration. We have risen 1¼ vara in San Jorge rise; the branch of rich ore is narrow, but to the west of the rise, where we have stoped a little, the lode has improved. We put the barateros to break metal for a fortnight, thinking we should be able to smelt some at Regla hacienda, and beneficiate some in barrels in another of the company's haciendas, but I am told at present they have a full supply of metal for all the haciendas. There are about 100 cargas of good azogue ore, and 20 cargas of best at the mine, ready for transmission, as soon as we have arranged about an hacienda. Dr. Chester, who visited the mine the week before last, considered it better not to break any more metal before we have the means of reducing it. He says (which is true) that it is safer underground than at surface, especially as the troops from this place are disbanded, and the greater part have returned with their arms; consequently we have suspended the raising for the present.

VAL SASSAM.—T. Rickard, Andeer, Nov. 6: Ursera: Nothing remarkable has taken place in either of the ends since last report. The Cantina has turned out a little ore during the month, but less than in September. The lode is still regular, and rather strong, and contains ore enough to be valued at 6*l.* per fathom. The rise above this level is now very near the Calcina, and will, no doubt, be shortly struck through. The lode at this place has during the last month turned out ore to the extent of about 8*l.* per fathom. We are now widening the Cantina gallery in the old part of it, with a view to laying rails there, by which means, joined with that of the rise, we shall in future be enabled to do all the transport of this part of the works. The Calcina gallery from the cross-cut outwards was in October extended nearly 8 metres; there is still a nice leader of ore there, valued at 8*l.* per fathom. The end of the same level west is set to two men, at 100 frs. per metre; the lode in this end is at present without ore. The upper Calcina, though still promising, does not yet produce a rateable quantity of ore; it went forward 2·40 metres in October, and is again taken by two men, at 70 frs. per metre. The Del Pozzo end gave great promise of improvement during the early part of the month, but has since become poor again; it is re-set to four men, at 95 frs. per metre. The rise above this level is continued by four men, at 90 frs. per metre; the lode is 1 ft. wide, with a little ore. At Roffia the cross-cut was resumed towards the end of the month. I hope soon to be able to report that the lode is cut at this place. The discovery during the last take of a bunch of ore in the new pitch at the surface, situate to the west of Cobel's post, has somewhat improved the condition of our tribute. It would be premature yet to say of what importance this discovery may turn out to be, but there is no doubt it is of considerable value; we hope to derive pretty good help from it in the returns during the winter months. We shall in a very few days be able to advise you of the dispatch of about 13 tons of Ursera ore.—Tospino: The San Giovanni end went forward 5 metres last month, and is re-let to four men, at 70 frs. per metre; the lode in the end is poor. As much as was possible from the bad state of the weather, we have at this mine during October been occupied in clearing out the stopes at the surface, and in conditioning the ore for the crusher. Some part of the month we were able to do a little dressing, but the frequent interruptions made it unsatisfactory work, and much more expensive than it otherwise would be. At the present time it almost appears better to cease operations at that place altogether for the season. [There were 4 tons of average ore sold at Swansea on Nov. 5, at 28*l.* 10s. per ton.]

PESTARENA.—Thos. Roberts, J. Roberts, T. Warne, Jas. Mitchell, Nov. 12: Pestarena: We have the pleasure to report a very important improvement in the Peschiera Mine; in one of the bottom stopes we have now a lode from 2 to 4½ feet wide, yielding 18 tons of ore per fathom, worth 120*l.*, or over 36 ozs. of gold per fathom. The other stopes working on this lode from the bottom level yield their usual quantity of ore, worth 20 ozs. of gold per ton. We have also another important improvement in the end of the 16 *fm.* level south, on No. 5 lode; the lode at this point is 3 feet wide, worth 1 oz. of gold per ton. We have finished a fork in the bottom of the south-eastern sump-shaft in the Peschiera Mine, and we have now resumed sinking the main whim-shaft. In the Aquavite Mine we have in the adit level commenced stoping in the bottom on the new side lode, which is at present 2 feet wide, and yields 1 oz. of gold per ton of ore. The lode in the stopes in the back of the 33 fm. level yields 8 tons of ore per fathom, worth 2 ozs. of gold per ton. We are happy to inform you that we have sent this week for the first time ore from the Morghen to the station at Cieppi Morelli, over the whole complete line of the carriage ropes, and that this final trial has still further proved the success of the system. As soon as the buildings on the stations for the reception of the ore are completed, regular carriage of ore will be commenced over these ropes; and we call again your attention to the fact that a very great saving of expense will thereby be effected. We have a full force engaged on these buildings.—Battigio: We have opened at the mines several new stopes, which produce ore worth from 10 to 15 dwts. per ton. Our most important surface improvement under active progress here is the closing in of the large water-wheel, which we hope to finish before the winter sets in, to enable us to work the mills of the establishment longer during the severe season than we have done during the past.—Val Toppa: The lode in the back of Marmo Rosso level is 6 feet wide, worth 1 oz. of gold per ton. All other stopes continue as last reported. You will hear with pleasure that since our remittance on the 27th, our daily production of amalgam is exceeding our average returns, and that should no severe frosts set in, our next remittance, which will be made during the first days of December, is likely to be about 1000 ozs.

VAL ANTIGORIA.—Capt. Thos. Roberts, Crodo, Nov. 12: The improvements reported in our last continues; we have commenced sinking a winze in the bottom of the adit; the lode going down at this point is worth 1 oz. of gold per ton of ore. The lode in the 30 fm. level end south yields 18 dwts. of gold per ton. The lode in the 30 fm. level north produces 1 oz. of gold per ton. The lode in the winze in the bottom of the 10, on No. 2 lode, is about 1 ft. wide; the ore gives 18 dwts. of gold per ton, and looks exceedingly well for continuance. We have remitted to the office 63 ozs. of gold, worth about 4*l.* per oz., obtained chiefly from the two new mills. We are well advanced with our surface work for the reception of the new amalgamating and hoisting machinery, and we hope to receive shortly the advice of its shipment from Liverpool.

LUSITANIAN.—Oct. 29: Palhal Mine: At Taylor's engine-shaft, below the 110, the lode is 6 feet wide, composed of quartz, and worth 6 tons of copper ore per fathom.—Levels on Basto's Lode: In the 90, east of Rives's shaft, the lode is 1½ ft. wide, composed of flookan and quartz, with small stones of ore. The lode in the 110, east of Taylor's, is 4 feet wide, composed of quartz and copper ore, worth 1¼ ton per fathom. An the 110, west of Taylor's, the lode is 2 feet wide, composed of quartz and ore, worth 1 ton of ore per fathom. In driving west on the slide, in the 100, west of Taylor's, we have cut a branch going back in the south side, 1 ft. wide, producing mundic, and good stones of ore; this may be a branch from Basto's lode. The lode in the 100, east of Taylor's, is 1½ ft. wide, composed of flookan and quartz, with ore, worth ½ ton per fathom. In the 70, east of Rives's shaft, the lode is 4 feet wide, composed of quartz and a branch of ore, worth ½ ton of ore per fathom. The lode in the 38, west of Perez' shaft, is 8 in. wide, yielding stones of ore. In the 70, west of the slide, the lode is 1 ft. wide, composed of quartz. In the 18, west of Perez' shaft, the lode is 6 inches wide, of flookan. The lode in the adit, west of Perez' shaft, is 6 in. wide, composed of quartz and small stones of ore.—Levels on the Caunter Lode: In the 90, east of the slide, the lode is 1½ ft. wide, composed of flookan. The 80, east of slide, is composed of a dry flookan; lode 1 ft. wide. The lode in the 100, west of Basto's lode, and east of Taylor's shaft, is 1 ft. wide, composed of quartz and stones of ore. In the 60, west of Oak engine-shaft, on great caunter lode, the lode is 6 in. wide, composed of flookan. The lode in the 28, east of slide, on Ponte lode, is split into small branches, none of which are productive.—Cross-cuts: The ground in each of the three cross-cuts—the 60 north of Rives's shaft, the 100 south of Taylor's, and the 28 south of Basto's lode, still continue to be a hard gneiss.—Winzes: In No. 64 winze, below the 100, west of Taylor's, on Basto's lode, the lode is 8 in. wide, producing s ones of ore. The lode in No. 65 winze, below the 50, west of Taylor's, on the new lode, is 8 in. wide, producing stones of ore.—Stopes on Basto's Lode: Above the 18, west of Fonsaca's winze, the lode is worth 1 ton per fathom. Above the 28, east and west of No. 58 winze, the lode is worth ¾ ton per fathom. Above the 80, east of Domingo's winze, the lode is worth ¾ ton per fathom. Above the 80, west of Domingo's winze, the lode is worth 1½ ton per fathom. Above the 80, east of Taylor's, on the south part, the lode is now worth ½ ton per fathom. Above the 50, west of Ernesto's winze, the lode is worth 1 ton per fathom. Below the 60, east of Rives's shaft, the lode is 1½ ton per fathom. Above the 90, east of Taylor's, all the ore ground in this stope is worked out, and the men are removed to stope below the 80, west of No. 61 winze, where the lode is worth 1 ton per fathom. The 90 fm. level stope, west of Taylor's, is werth 1 ton per fathom. The stope above the 90, east of No. 61 winze, produces 1 ton of ore fathom. The stope above the 100, east of Taylor's, yields 1¼ ton of ore per fathom. The stope above the 100, east and west of No. 60 winze, produces 1 ton of ore per fathom. The stope above the 28, west of Taylor's, yields 1 ton of ore per fathom.—Stopes on the Caunter Lode: Above the 80, east of No. 55 winze, produces ¾ ton of ore per fathom. Above the 70, east of Tavara winze, ¾ ton of ore per fathom. Above the 50, west of Machado's winze, yields ½ ton of ore per fathom. Above the 70, west of No. 66 winze, on Mill lode and slide, produces 1 ton of ore per fathom. Above the 50, east of Lauranco's winze, on the great caunter lode, produces ¼ ton of lead per fathom. Above the 38, east of Taylor's, on Mill lode, produces ¾ ton of ore per fathom. Below the 38, east of Taylor's, on Mill lode, is worth ¾ ton of ore per fathom.—Carvalhal: In the 60, east of incline shaft, the lode is 1¼ ft. wide, composed of quartz and stones of lead. The lode in the 40, west of incline shaft, is 1½ ft. wide, composed of quartz and mundic. The 30, east of incline shaft, is composed of quartz and stones of lead, intermixed with country, and is letting out small streams of water; lode 2 feet wide. The lode in the 30, west of incline shaft, is 4 ft. wide, 2 feet of which is composed of quartz, with lead and blende, worth 1 ton per fathom. In the 20, east of incline shaft, the lode is 3 ft. wide, now producing 2 tons of ore per fathom. The lode in the 10, east of incline shaft, is 1 ft. wide, composed of quartz and flookan. In the 10, west of rise, east of incline shaft, the lode is 3 feet wide, producing stones of lead. The last two levels are being driven to ventilate the eastern part of the mine. In the rise above the 30, east of incline shaft, the lode is 2 feet wide, composed of quartz.—Stopes on Great Lode: Above the 20, east of incline shaft, the lode is worth 1¾ ton per fathom. Above the 30 fm. level, east of No. 3 winze, the lode produces ¾ ton per fathom. —Figueiredo Mine: In Henty's shaft we have been all the month drawing water and repairing the timber in the shaft. We hope to complete it next week.

WEST CANADA.—Captain Plummer, Oct. 24: Huron Copper Bay: The stope west of Stephen's winze, east of new shaft, yields 1½ ton per fathom; and east of winze 3 tons per fathom. The 20, west of Palmer's, is rather poor, yielding 1½ ton per fathom. The stope east of this, below the 30, yields 2½ tons per fathom. Below the 20, east of shaft, the lode is worth 4 tons, and in the west it yields 2½ tons per fathom. Bray's shaft is being sunk with dispatch, and the lode looks promising. The stope east of Carmichael's winze, east of shaft, yields 3 tons per fathom. Powell's winze, below the 20, on the Fire lode, has reached the 30; the lode, of late, has a greater underlie, and a portion of the lode has been carried, which prevents our speaking of its value.—Wellington: The stope west of Grenfell's shaft, new lode, yields 1½ ton, and is not likely to improve. The lode in the winze below the 20, west of this, yields about 1½ ton per fathom. The stope below the 24 fathom level, east of Mitchell's, yields 2 tons per fathom. The 36 looks well; the lode is large, and yields 3 tons per fathom, and the stope below 3 tons. The stope east of Hooper's yields 2 tons per fathom; and on the west of Rowe's, 1½ to 1¾ ton per fathom.—Collings' Shaft: The lode is poor, and I see no prospect of improvement. The stope west yields 1¾ ton per fathom. The stope west of Grenfell's Fire lode yields 2 tons per fathom. The tribute pitch, on the Fire lode, is poor.—Bruce Mine: The lode in the 25, east of Trial's, is smaller, and is not looking so well as it at did the last report. The stope in the back has somewhat fallen off in value, and yields now not more than 1¼ ton per fathom. The stope below this yields 2 tons. The stope west is a little improved.—Taylor's Shaft: The lode in the 10, going east, is much larger. Some time since the lode greatly improved, and it was expected that we should have a good bunch of ore, but it has not come up to our expectations; the lode, however, is promising. We are pushing on the dressing as fast as circumstances will admit, but the underground stuff we have been getting of late does not yield well.

FOREIGN MINING AND METALLURGY.

The price of pig is so much depreciated in the Moselle district that there is some talk of the extinction of the second Moulaine blast-furnace. Some iron has been sold in the Moselle for Switzerland at about 7*l.* 8s. per ton, delivered free. The competition of the pig of the Meurthe and the Moselle, which sells in the Nord at 2*l.* 19s. 2d. to 3*l.* 0s. 10d. per ton, exercises an unfortunate influence over the metallurgical industry of that department, and two blast-furnaces have been extinguished at Ferrières, two at Aulnoye and Bois-du-Tilleul, two at the works of the Maubeuge Company, and one of the Providence Company. No. 2 iron sells at 7*l.* 4s. per ton, free at Paris. The price of charcoal in the Haute-Marne is affirmed to be too high to admit of the fabrication of charcoal-made pig being continued in that department. The River Marne, in the canalised portion of its course—that is, from Cumières as far as its confluence with the Seine—is now the scene of steam-towing apparatus, and regular transports are expected to be effected between Paris and Strasburg. The first voyage between Paris and Epernay, going and returning, was made in six days' navigation, instead of the 16 to 17 days ordinarily occupied in similar voyages. In order not to pay the *octroi* duties, to which they have been subjected since Jan. 1 this year, the proprietors of several works in the suburbs of Paris have closed their establishments. The administration of the *octroi* proceeded to seize some of the goods of these manufacturers, and the articles seized have just been sold. The iron comprised in the Paris Exhibition building is about to be offered for sale; this iron comprises about 13,500 tons in all. First-class rolled-iron, No. 2, coke made, has made 8*l.* per ton at Paris, with a scale of 8s. per ton in addition from class to class up to the sixth class. The Rive-de-Gier Collieries Company is paying a dividend of 3s. 4d. per share. Meetings are announced as follows:—Basse Indre Forges Company, Nov. 29, at Paris; Pontgibaud Mines Company, Nov. 30, at Paris; Ahun Collieries Company, Dec. 5, at Paris; Fervay and Ames (Pas-de-Calais) Collieries Company, Dec. 11.

No improvement can be reported at present in the Belgian metallurgical markets. The Liége Chamber of Commerce, in a report to the Belgian Minister of Foreign Affairs on the state of industry in that province in 1866, expresses itself as follows on the subject of the blast-furnaces of the district:—"The iron trade, as everyone knows, is in a languishing state in all countries, but especially in Belgium. While in neighbouring countries, Prussia and France, a certain revival has taken place in affairs, it has not been the case with us, and it is more than probable that we shall have to wait a long time, having regard to the fact that the markets of France and Germany have become unapproachable for Belgian products. This state of things arises essentially from the import duties to which they are subjected. Thus, pig must pay on entering France and the Zollverein the sum of 15s. per ton, while German and French pig pay only the sum of 4s. per ton. As regards rolled iron, plates, rails, &c., the difference is still more sensible. If the difference indicated between the import duties was justified on the conclusion of the recent treaties of commerce, the changes which have occurred since in the conditions of production among our neighbours would permit a great diminution, if not a complete abolition, of these duties, Belgium naturally abandoning also the import duties imposed on products proceeding from the countries above mentioned. For some time past Germany has furnished us with coal, coke, and iron minerals. France also furnishes us with these minerals. Well, if these countries can sell these raw materials to Belgium, it follows that they are more favourably circumstanced than we are for the production of pig and iron. Why, then, maintain such enormous import duties? It would now be equitable to fix at the same rate the import duties of the three countries, or to abolish them completely, since Westphalia and the Rhenish provinces on the one hand, and the Moselle and the North of France on the other hand, are so circumstanced that they are able to contend with us on all the markets of the world, and have nothing to fear from Belgian competition." Truly there is nothing to be heard on all sides in the foreign iron trade save universal grumbling. Without wishing to detract from the value of the complaints of the Liége Chamber of Commerce, and although we regret in common with it the existence of protectionist duties, which nothing justifies, it is to be lamented that nothing but complaints should be heard in its report. We are inclined to prefer the idea expressed by the Charleroi Committee of Forge masters, which consists in the constitution of a Forges Union of Credit. This idea seems likely to yield certain results, while it is also necessitated by new wants, which it is indispensable to satisfy. The Belgian Company for the Construction of Machinery and Railway Plant will pay, Nov. 15, a dividend for the exercise 1866-7, of 1*l.* per share. Meetings are announced as follows:—Châtelineau Blast-Furnaces, Ironworks, and Collieries Company, Nov. 14, at Brussels; John Cockerill Company, Nov. 20, at Seraing and Liége; Belgian Company for the Construction of Machinery and Plant, Nov. 23, at Brussels; Prague Iron Industry Company, Nov. 23, at Vienna; Austro-Belgian Metallurgical Company, Nov. 26, at Corphalie, near Huy; Carlsruhe Company for the Construction of Machines, Nov. 27, at Carlsruhe; and Bois Colliery Company, Nov. 28, at Quaregnon.

We group together a few miscellaneous facts. The Belgian General Company for Lighting and Heating by Gas—which has works at Prague, Tournai, Louvain, Charleroi, Marchienne-au-Pont, Chemnitz, Catana, Rimini, Sienna, and Fourmies—sold in the year ending Aug. 31, 1867, 195,525,457 English cubic feet of gas, as compared with 165,403,595 English cubic feet of gas sold in the year ending Aug. 31, 1866. The sales of September amounted to 13,679,631 English cubic feet, as compared with 11,650,677 English cubic feet in September, 1866. So much for the company's original undertaking. At the annexed works at Arras, Bergues, Cambrai, Dunkerque, St. Omer, Valenciennes, and Anzin the quantity of gas sold during September was 7,622,758 English cubic feet. The Hungarian Government is negociating for the delivery of the rails required for a line from Grosswardein to Klausenburg. The Austrian General Gas Company has declared a dividend at the rate of 14 per cent. per annum, as compared with 10¾ per cent. per annum paid for the preceding exercise. A contract will be let, Nov. 18, for the delivery of 10,500 tons of coal required, to be delivered at Cadiz, to meet the requirements of the Spanish Navy. Tenders will also be received, Nov. 25, at the secretariat of the Junta Consultativa de la Armada at Madrid for the rolled iron, galvanised iron, and steel required for the arsenals of Carraca du Ferrol and Carthagena during the three years 1867-8, 1868-9, and 1869-70. The Ministry of Marine at Madrid will also proceed, Dec. 16, with the arrangement of a contract for the coal required in 1868 and 1869 at the ports of the Habana, Cardenas, and Nuevitas.

At Havre affairs in copper have been somewhat inactive of late. For Chilian in bars 70*l.* per ton has been obtained with some difficulty. The last sale reported comprised a lot of 10 tons of disposable, at 70*l.* per ton, Paris conditions. The sale is mentioned of 2 tons, at 66*l.* 12s. per ton for red, and 50*l.* 10s. for yellow. The demand is very quiet on the Paris market: Chilian, yielding 96 per cent., has been feeble, at 70*l.* 10s.; English, in plates, 78*l.*; United States, Lake Superior, 88*l.*; and Corocoro mineral, 74*l.* per ton. At Marseilles prices have remained without change, with little business doing. There is no improvement in the demand on the German markets; prices are considered nominal. The advices which come to hand as to the controlling tin markets show less activity in affairs, and the demand being more moderate transactions have not been concluded without some slight concessions in prices. At Rotterdam and Amsterdam Banca, dealt in first at 53¾ fls., and then at 53½ fls., closed at 53 fls., while Billiton has made 52¼ fls. The total deliveries and stock on the Dutch market, Oct. 31, were as follows:—

	1865.	1866.	1867.
Deliveries, Jan. 1 to Oct. 30.....Blocks	113,852	151,955	99,016
Stock on schedules, Oct. 31	121,759	166,009	72,691

The unsold stock of the Society of Commerce, Oct. 31, was 18,978 blocks, as compared with 51,189 blocks, Oct. 31, 1866, and 73,014 blocks, Oct. 31, 1865. The demand has been very moderate at Paris, Banca making 96*l.*; brilliant Detroit, 94*l.*; and English, 94*l.* per ton. The article is rather neglected on the German markets, with a downward tendency. At Paris, rougu French and Spanish lead maintain themselves at 19*l.* 12s. per ton. Soft German lead, being somewhat scarce on the Hamburg market, is firmly sustained in value; on the other hand, ordinary descriptions are obtainable at a slight reduction. At Berlin, the article gives rise to sustained and rather animated transactions. The Cologne market displays little or no change. The reports received from Breslau and Hamburg agree in indicating little passing in zinc, the prices accorded by holders not being *en rapport* with those of foreign markets. At Paris, in presence of the good tone of prices at Breslau and Hamburg, rough Silesian zinc is sustained at 22*l.* 4s., and zinc for other purposes at 21*l.* 16s. per ton.

The total value of the production of metals in Prussia was estimated in 1860 at 47,500,000 thalers, of which 26,000,000 thalers referred to iron and 3,000,000 to steel. In 1861 the total had risen to 49,250,000 thalers, of which 24,250,000 thalers referred to iron, and 5,000,000 thalers to steel. In 1862 the value of the production effected further advance to 56,500,000 thalers—28,500,000 thalers iron, and 5,500,000 thalers steel. In 1863 it attained an aggregate of 61,000,000 thalers—30,000,000 thalers iron, and steel 7,000,000 thalers. In 1864 there was yet again an advance to 71,000,000 thalers —33,500,000 thalers iron, and 13,000,000 thalers steel. Finally, in 1865 (the last year of which we have any information) the value of the production was estimated at 79,000,000 thalers, of which 35,000,000 thalers referred to iron, and 15,250,000 thalers to steel. Thus we find that comparing 1865 with 1860, the value of the production of iron increased to the extent of about one-third, while the value of the production of steel was quintupled in the same period. It is stated that the Bessemer steel works now existing in Europe have attained an annual productive power of about 475,000 tons, although the real production of the past year did not exceed 200,000 tons. Two-thirds of the productive capacity, as well as of the real production, belonged to England. Thus it was recently estimated that England possesses 15 Bessemer steel works; Sweden, 7; France, 6; Prussia, 6; Austria, 6; Italy, 2; and Belgium, 1. It may be remembered that while the famous Krupp, of Essen, displayed at the London Exhibition of 1851 a cast-steel ingot weighing 2¼ tons, he showed at Paris, in 1855, a corresponding ingot, of the weight of 5 tons. At the London Exhibition of 1862 he was again in the field, with an ingot of 20 tons; and this year at Paris he has figured with an ingot weighing 40 tons. It would be difficult to estimate the weight at which the cast-steel ingots of Herr Krupp will have arrived in 1883—that is, in the course of the next 16 years. The establishment of Essen, which has existed 40 years, now employs 10,000 workmen, of whom 8000 are engaged in the Essen steel-works, properly so called. In 1866, 62,500 tons of cast-steel, valued at 1,500,000*l.*, left the Essen works. For the production of the very considerable quantity of cast-steel mentioned there was a daily consumption of 1000 tons of coal, and that independently of the important consumption of coke which takes place in connection with the production of pig intended to be converted into steel. The Essen establishment has now altogether manufactured and delivered 3500 guns of cast-steel, of a total estimated value of 1,050,000*l.* It has now on hand orders for cannon to the estimated value of 600,000*l.*

THE TIN TRADE.—Mr. L. Th. van Houten (Rotterdam, Oct. 31) writes—During the past month we have to report a very quiet market for tin, it being influenced, like most other articles, especially in the last days, by political difficulties in Southern Europe, which create an uneasy feeling in all commercial circles. In the beginning of the month sales of Banca took place at the price of the last sale—viz., 54¼ fl.—going down afterwards to 53¼ fl., with immediate delivery. Several large orders coming on those low quotations, a small rise took place to 54 fl. In the last few days a more quieter feeling again set in, and the last sales have been made at 53¾. We draw special attention to the small quantity of Banca tin now actually afloat for the Dutch Trading Company, being again 9500 pekuls less than it was at the end of last month. Billiton was sold from 52¾ fl. to 52½ fl. holders now ask 52¾ fl. In floating parcels we have no business to report during the month. The position of Banca tin in Holland on Oct. 31, according to the returns of the Dutch Trading Company, was:—

		1867.	1866.	1865.
Import in October .....Slabs		17,324	15,294	24,226
Total ten months		94,952	177,183	162,814
Deliveries in October		14,950	33,250	10,410
Total ten months		99,993*.....	151,955	113,822
Stock second hand.....		173,046	166,009	121,759
Total stock		192,024	217,198	194,773
Stock of Billiton.....		10,772	—	—
Quotation Oct. 31	Banca.....	53½ fl.	46¼ fl.	55¾ fl.
	Billiton	52½	—	—

* Of which 977 slabs were Billiton.

The preceding returns of 1867 compared with those of 1866 exhibit—An increase in the import for October of 64 tons, a decrease of the import for the ten months of 2590 tons, a decrease of the deliveries for October of 576 tons, a decrease of the deliveries for the ten months of 1637 tons, an increase of the stock second-hand of 222 tons, a decrease of the unsold stock of 1015 tons, a decrease of the total stock of 793 tons, and an advance in the quotation of Banca of 12*l.* 1s. per ton. The quantity of Banca tin now afloat for the Dutch Trading Company is 6 tons. The Government returns for the month of August are as follows:—

EXPORT OF TIN FROM HOLLAND.

	August.			Eight months.		
	1867.	1866.	1865.	1867.	1866.	1865.
Germany ..Tons	230	172	274	1542	1411	1151
Belgium	41	18	30	343	297	309
England	53	51	135	166	471	318
France	118	139	94	581	1039	561
Hamburg	21	13	28	166	192	127
United States....	18	—	29	27	189	87
Other countries..	11	12	19	133	250	213
Total ..Tons	492	405	609	2958	3819	2766

Messrs. Von Dadelszen and North, write—Tin, in spite of persistent machinations on the part of some interested parties, has well maintained its price, and the amount of business reported during October has been fully up to the average. The demand for consumption was great, as is proved by the large delivery, and our advices from the different producing countries fully confirm the expectation of diminished supplies, for some little time, at all events. It is impossible to get really reliable information about the production of Banca, but to prove that no further shipments from Java became known in Holland during October, is the fact that the quantity now afloat is reduced to 10,100 pekuls from 19,600 pekuls on the 1st of October. The arrivals in Holland during October have been 9,000 pekuls. From the Straits no fresh shipments have been made beyond those which we knew were in preparation a month back, while the following extract from the Penang Market report, received by the last mail, proves the Chinese riots to have been fully as serious in curtailing the production of tin as was ever anticipated:—"The present scarcity of the metal in Singapore and the scant supplies here have, no doubt, caused these high rates to be paid. It is feared that imports from Tongka, the place whence our chief supply comes, will be very much curtailed during the next six months at least, owing to the late very serious disturbance amongst the Chinese of the secret societies there and the destruction of the tinworks. Stocks here are about exhausted, the great part of which is not for sale at present, and the remainder is held for high rates." In Cornwall there is no improvement, and we are confirmed in our opinion that stocks there, in the hands of both miners and smelters, are at the lowest ebb. In Holland, opinions are much divided. The large stock in second hands causes distrust, and we cannot be very confident in the stability of prices there until after the sales prompt, as speculators have operated much more freely there than here. Were our market free from Dutch influence, we should certainly look confidently to a higher range of prices, and it still remains to be proved whether the consumption of the article is not sufficient to override the effect of the heavy Dutch stock. The quantity of tin here and in Holland on Oct. 31 was as follows, compared with the three preceding years:—

	1867.		1866.		1865.		1864.	
	Slabs.	Tons.	Slabs.	Tons.	Slabs.	Tons.	Slabs.	Tons
Stock in Holland ..	172,599=	5350 ..	166,009=	5313 ..	121,795=	3890..	75,350=	2
Arrived for next sale	17,688=	540 ..	50,916=	1630 ..	73,014=	2340..	45,258=	1
Billiton in Holland..	300		200		—		—	
Stock here.....	2164		3185		2844		3	
Total tons	8354		10,428		9074		7	

The quantity of tin now afloat for England is 1042 tons, against 421 tons last year, and to the Continent *nil*.

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